ABSTRACT OF A

Post-Graduate Lecture

ON

NASAL POLYPI: THEIR DIAGNOSIS AND RADICAL TREATMENT.

Delivered at the Eye, Ear, and Throat Infirmary, Edinburgh,

BY G. HUNTER MACKENZIE, M.D. EDIN.,

SURGEON FOR THROAT DISEASES TO THE INFIRMARY; PRESIDENT OF THE FIFESHIRE MEDICAL ASSOCIATION.

GENTLEMEN,—Mucous polypi of the nose are of such frequent occurrence as to be familiar objects to most practitioners and their diagnosis and treatment are consequently considered matters of extreme simplicity and involving no great difficulty. This is undoubtedly true in many instances, for their appearances, when of large size and situated in the anterior part of a roomy nostril, are very characteristic and readily recognised. Then in regard to treatment, what, it may be asked, is easier than to lay hold of them with forceps and remove them? In some cases, however, their diagnosis is not easy and in all their radical treatment—by which is meant their complete removal and the prevention of their recurrence—is a matter demanding the exercise of much skill and patience. It is to the diagnosis of obscure and the radical treatment of all cases to which I now wish briefly to direct attention.

The diagnosis of nasal polypi may be rendered obscure by their situation, by their size, by certain peculiarities in the internal configuration of the nares, or by combinations of these. When a polypus develops in the posterior region of what is not unfrequently an abnormally narrow nostril it may not be readily discernible even on effective illumination of the nasal cavity. It may be obscured by or may simulate a little mucus and even when this has been blown away by the patient or mopped out by the surgeon it still may escape detection. Fortunately, there is one test which materially aids in the diagnosis of polypus of the posterior nares. Such a polypus, growing as it does from the roof and hanging in the posterior and roomier part of the nose, is usually pedunculated and moves freely on forcible respiration. Hence if the patient be instructed to firmly close one nostril and blow forcibly through the other the polypus will be distinctly observed to advance and recede with expiration and inspiration, and not unfrequently during inspiration it disappears entirely from view. The polypus, in fact, acts as a valve, usually permitting inspiration and impeding or completely preventing expiration, and I consider that a patient who presents this symptom is bound to have polypus in his posterior nares. It is certainly a valuable aid in diagnosis and I have repeatedly met with cases in which the presence of a muccus polypus in the posterior nares was overlooked until the application of this test. This mobility with forced expiration is, as you will presently see, a feature of considerable value in treatment as well as in diagnosis.

The region of the middle turbinate body and the superior meatus of the nose are localities where small mucous polypi may also not be of easy detection. You are aware that these are the favourite areas for the development of polypi, which, when large, grow downwards and become prominent objects in the nasal cavity. When of small size, mere buds in fact, and nestling in the clefts and recesses which are usually present in these regions, they are very liable to be overlooked. In order to discover them it is necessary in the first place to clear away any mucus or pus that may be present and then make gentle use of the probe by means of which they can be more or less freely moved. It is important to remember that the small buds in this region, being sessile, and lying outwith the main respiratory tract, do not respond to the test of moving with forced respiration as in the case of the post-nasal variety. Another cause of the failure to detect nasal polypi is the fact of their being situated behind bony or cartilaginous projections from the walls of the nasal passages or marked deviations of the septum, and I have repeatedly seen cases in which polypi could be seen and treated only after removal of these abnormalities. Again, one may meet with instances in which certain of the above conditions are combined, such as post-nasal growths or supra-nasal buds with congenital narrowing of the nares or projections of their walls. Sometimes the nostril may be represented by an anterior and posterior chamber connected by a narrow slit caused by a septal deviation and forming a sort of hour-glass arrangement with polypi in both chambers. At other times one nostril is markedly widened at the expense of its fellow. In the latter case polypi in the one nostril might be diagnosed and treated with comparative ease and the very reverse in the other.

But if, under such combinations of circumstances as I have depicted to you, nasal polypi are apt to be overlooked, their radical treatment, as you will readily assume, is likely to be a matter of even greater difficulty than the diagnosis. In reference to the particular method to be employed this much may be affirmed, that whilst the forceps used in the ordinary way may suffice for the removal of large polypi in roomy nostrils they are quite ineffective in the class of cases now under consideration, and, moreover, in all classes their use, when not followed by cauterisation, affords no guarantee that the polypi have been completely removed and no buds or pieces left. So-called recurrence after removal has hitherto been one of the most marked features of mucous polypi of the nose, but this term is a misnomer, for the growths have simply not been removed in their entirety and what has not been removed cannot recur. Even removal of a portion of bone along with the polypi does not indicate that all have been thoroughly cleaned out. The ordinary polypus forceps, in short, is not fitted for the fine class of work necessary to the thorough eradication of the variety of nasal polypi now under consideration and the consequence is that it has been discarded by most of those who have large and special experience of this department of surgery.

In such cases as I have now brought under your consideration instead of the forceps we now operate with the snare and in my own practice at least with the curette. The snare may be cold or heated by electricity; I prefer it cold especially when delicate manipulations are necessary, and finish with the application of the electro-cautery point to the seat of attachment of the polypi. It is probably unnecessary to add that these operations are performed under a local or general anæsthetic and with the aid of the speculum and strongly reflected light, so that nothing is snared or cauterised but what can be seen. I do not believe in the efficacy of chromic acid as a caustic after the removal of polypi; it certainly is much inferior to the electro-cautery as a preventive of recurrence. In the post-nasal (valvular) variety it is necessary to have the coöperation of the patient in snaring the growth and hence a general anæsthetic cannot be employed. The snare having been inserted vertically is turned horizontally when it reaches the posterior nares and the patient having been instructed to blow the polypus forward, which, as already stated, he is usually able to do, it is then caught in the snare and removed. In cases with small sessile polypus buds on the middle turbinate body and in the superior meatus the application of the snare is sometimes not easy on account of the diminutive size of the growths and the absence of pedicles. Here they may be simply destroyed with the electro-cautery, but it is in this class that I have found the use of the curette particularly advantageous; its action is much more rapid than the cautery, for with it I have repeatedly completely cleared the superior meatus at one sitting, passing the instrument quickly and firmly several times from behind forward. The curettes which I use have been made for me by Messrs. Young and Son, of Forrest-road, Edinburgh, are fitted with adjustable handles and have variously shaped scraping surfaces so as to suit them to the peculiarities of each individual case. Smart hæmorrhage ensues after their use, but this can easily be arrested by tamponade and does not recur. They may be used under a general anæsthetic.

I have been asked a most pertinent question by a member of this clinique. Is there any efficacious local medicinal means for the removal or the prevention of the recurrence of nasal polypi? I do not know of any such. I have at various times made trials of tannic acid, of absolute alcohol, and of many other recommended applications, but have never had any success with them. Some of them are painful, most are useless, and all are tedious. I was very recently interviewed by a woman who had several polypi removed by a surgeon, using the forceps only, about three months

ago. Since then she has been snuffing up tannic acid almost daily. I now find the middle turbinate body covered with, and the superior meatus full of, healthy polypus buds, with the probability that in a few months the patient would be as bad as ever. Without going into the details of many of my cases I may say that I have good reasons for recommending you to operate on the lines I have laid down for you, for by doing so not only may all polypi be removed but their recurrence will most likely be prevented.

In considering the symptomatology of mucous polypus there are two features which when present may materially or even gravely affect the prognosis. These are a discharge of pus and a discharge of blood from the nose. It occasionally happens that polypi are found embedded and surrounded by a copious purulent secretion which when removed rapidly collects and frequently has a putrefactive odour. The discharge may be unilateral or more rarely bilateral and is a source of great annoyance to the patient. This symptom points to implication of one or other of the accessory cavities of the nose, usually the antrum, and the probability is that not only is this cavity the seat of an empyema but also of polypoid degeneration of its lining mucous membrane. I have lately seen a case of nasal polypi in both nostrils with profuse discharge of putrid pus in which both antra and both frontal sinuses were opened and found full of small polypi embedded in pus.

Regarding the treatment of these cases it is necessary in the first place to completely clear away all polypi from the nose. The accessory cavities ought not to be opened until some time has been allowed to test the results of intra-nasal treatment, for I have known a case of nasal polypus with empyema of the antrum completely recover after removal of the polypi and without opening the cavity. In most instances, however, it is necessary to open, curette, and drain the antrum or sinus or both.

Hæmorrhage as a concomitant of mucous polypus of the nose is of bad significance with one exception. The exception is what is known as "bleeding polypus of the nose," a variety which usually affects women and curiously enough is almost invariably located in the left nostril. It is of the nature of an angioma, is single, and is attached to the anterior part of the septum. The angioma is of easy treatment. It is simply snipped off and its base touched with the electro-cautery; recurrence, as a rule, does not take place.

Hæmorrhage in a mucous polypus almost invariably indicates a high degree of malignancy and is one of the earliest and most persistent symptoms. The naked-eye appearances in the early stages in such cases may be very similar to ordinary mucous polypi or more commonly the growths may be mottled and blood-stained. A characteristic feature of the hæmorrhage is the ease with which it may be induced, as, for instance, by simple and gentle probing. At the present time I have under my care, in conjunction with Dr. Affleck, a lady suffering from malignant polypus of the nose. Curiously enough she has polypi in both nostrils; in the right they are the ordinary mucous polypi and have been easily removed without bleeding; in the left they are exceedingly vascular and whilst in the early stages they presented many resemblances to simple polypi they subsequently became so massed and matted together as to appear one dense, black, bloody mass, filling the entire nostril and invading the antrum, the cheek, and the mouth. Microscopical examination has so far failed to reveal the exact nature of the growth, as on each of the two occasions on which examinations were made by expert microscopists the report received was "simple mucous polypus."

The treatment of malignant polypus depends upon the degree of malignancy, the stage of the disease, and the age and condition of the patient. In early sarcoma an operation may under favourable conditions be performed with a fair prospect of success, but in cases with a higher degree of malignancy the disease is usually too advanced and too inaccessible and disposed to recur to justify any attempts at removal.

[A demonstration of illustrative cases followed.]

BARNSTAPLE AND NORTH DEVON DISPENSARY.—The annual meeting of the Barnstaple and North Devon Dispensary was held on Jan. 26th. The annual report showed that 2812 patients had been treated as against 2891 in 1896. The total income was £614 and the expenditure £534.

THE BACTERIOLOGICAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES IN CONNEXION WITH PUBLIC HEALTH WORK.[1]

BY SHERIDAN DELÉPINE, M.B., B.SC.,
PROCTER PROFESSOR OF PATHOLOGY, OWENS COLLEGE, VICTORIA UNIVERSITY.

I. INTRODUCTION.

(*A*) A QUARTER of a century has not elapsed since the time when we generally considered disease to be essentially a disorder of function or structure. The belief in the action of external causes did undoubtedly exist in the mind of our predecessors, but few would have been prepared to admit, as proved, thirty years ago, that such prevalent diseases as tuberculosis and malaria were due to the penetration into, and evolution in, our bodies of living organisms which, by their invasion, multiplication and development, were mainly responsible for the course which these diseases take. The transient action of physical or chemical factors and the existence of a number of diathetic tendencies were chiefly blamed, and the course of disease, according to the then current notions, was determined by the lesions resulting from the disordered activities of the tissues composing the body. A chill, retained bile, sudden stoppage of perspiration, exposure to damp, to heat, to cold, &c., were thought enough to disturb the nervous or circulatory mechanism of one or other organ; as a result of this we had diseases of the liver, kidney, heart, &c. The lesions found in these organs were made responsible for most of the symptoms observed. These lesions in the mind of most constituted the disease.

There were miasmatic or contagious diseases in which the existence of a contagium was admitted, often on a theoretical basis, but the diagnosis of these diseases was based entirely on the study of symptoms and lesions. The only information which was sought was that which could be found by anatomical or physiological methods during life or after death. The medical man was occasionally helped by events when a doubtful case, say of diphtheria, would prove its nature by infecting other persons. That this spontaneous experimental method was not always taken advantage of is well proved by the fact that the contagious nature of such a prevalent disease as tuberculosis was overlooked by the great bulk of the medical profession for many centuries.

There is not one of us who has not experienced either in his own practice or in that of his colleagues and even of his teachers how often symptoms and even lesions are deceptive. We are constantly reminded by the results of necropsies, by unexpected deaths or recoveries, how uncertain the diagnosis of atypical cases of disease is. When we find general tuberculosis or chronic septic diseases mistaken for typhoid fever, cases of scarlet fever or septic tonsillitis taken for diphtheria—and that not always by inexperienced men but even by high authorities—we cannot help feeling that any method which could in any degree make diagnosis more certain would be a great boon to human kind. This desire, which is common to all thoughtful medical men, is perhaps felt more keenly by medical officers of health.

By a discovery of certain pathogenic germs it is possible to foretell more accurately the ultimate issue of the reaction which they produce than it is to surmise what will occur by the observation of the phenomena arising at any of the intermediate stages of the reaction; this is a clear and well-admitted result of the work of Pasteur and of his successors. A membranous sore-throat, a pleuritic effusion, may leave us in doubt as to the probable nature of a case; but the discovery of the bacillus of tuberculosis, of diphtheria, of typhoid fever, &c., will at once remove any doubt from our mind and indicate at the same time the most suitable method of dealing with the case.

(*B*) I have reminded you in a very general and superficial way of these few elementary facts to make clear to you the spirit in which I approach the subject on which I have been asked to address you. The ordinary methods of

[1] A paper read at the Conference of Medical Officers of Health at the Sixteenth Congress of the Sanitary Institute, Leeds, on Sept. 15th, 1897.

clinical diagnosis are still relied upon in most districts. Statistical returns, preventive measures, are still based on them. Yet in the case of some of the most prevalent diseases microbiology has given us the means of obtaining results which, if not perfect in every respect, are much more accurate and speedy than the ordinary clinical methods. If I am correct in making this statement—and I hope I shall prove this to be the case—it is highly desirable that advantage should be taken of these new methods by all medical men and more especially by those who have charge of health offices.

It is of the highest importance that errors of diagnosis should be reduced to the utmost. Errors of diagnosis vitiate and render partly useless much of our work, and that for a number of reasons. 1. Statistical returns indicate to us the prevalence of certain diseases at various times and in various places and also the amount of improvement which preventive measures have produced, but these returns will be misleading if not based on sufficiently accurate data, comparable with each other wherever and by whomsoever they have been collected. 2. Isolation of patients affected with a certain contagious disease in hospitals provided for that disease becomes a source of contagion if patients affected with other diseases are sent by mistake to those hospitals. 3. The cost of isolation is thereby increased as well as the waste of working energy. 4. The knowledge of disease and of its treatment is retarded owing to the fact that practices based on error, not being checked, are allowed to grow into routine, supposed cases of recovery from certain diseases are recorded where the disease never existed, fatal terminations follow supposed mild illnesses which should have taken a benign course, and doubt is made to reign where progress might have been expected. It must be well understood that I speak of those errors of diagnosis to which the most careful and experienced men are liable. As to those errors which are the result of gross ignorance or of systematic practice I do not even allude to them here as their existence should be ignored, but so far as they are a discredit to our profession any method which should give the means of checking such abuses would be of great value.

I think that so far I have expressed nothing which will not be readily admitted. There remains for me to prove by practical results that we have now at our disposal several bacteriological methods giving us the means of increasing considerably the accuracy of *early diagnosis* of a certain number of infectious diseases. As these methods have been extensively tried in my laboratory at the Owens College for the last five years I am able to submit to you the results of my personal experience.

The diseases with regard to which I have been able to give assistance to the Public Health Department of Manchester and surrounding towns have been chiefly tuberculosis, typhoid fever, diphtheria, cholera, epidemic diarrhœa or gastro-enteritis, hydrophobia, anthrax and food poisoning. This naturally does not include all the cases in which assistance may be given by bacteriology. To show how the work is done and answers administrative purposes it will be sufficient to refer specially to three diseases which are constantly with us, and the bacteriological diagnosis of which is based on four different types of methods. I refer to tuberculosis, diphtheria, and typhoid fever.

II. TUBERCULOSIS, WITH SOME REMARKS ON SUMMER DIARRHŒA.

With regard to tuberculosis, this not being yet a notifiable disease, there is no question of case diagnosis[2]; our work has been chiefly directed to the detection of tuberculous milk. During the twelve months ending with last August 103 specimens of milk have been sent to me for examination.

Of these twenty-four had been collected for Dr. Niven in Manchester byres from cows affected with tuberculosis, most of which had also disease of the udder. These specimens were collected by Mr. King, the chief veterinary inspector, and his assistants, and sent immediately to the laboratory. I need hardly say how important a part of a systematic inspection of cowsheds the examination of milk is. This was abundantly proved by the results obtained.

The milk being drawn direct from the udder of an infected cow into a sterilised vessel is that of a single animal and is unmixed with milk of other cows. On arrival at the laboratory the sample is at once examined in the following way. 80 c.c. of the milk are centrifugalised in two stout cylindrical test-tubes holding 40 c.c. each. For this purpose I use a centrifugal machine giving 3000 revolutions to the minute and I allow the machine to work for fifteen minutes. The tubes have been previously sterilised by steam. They are kept closed with an indiarubber cap till the moment they are used. When this part of the process is completed the thickness of the layer of cream and the diameter of the sediment are measured, the colour of the milk and sediment are noted, and the reaction and specific gravity of the milk left in the bottle are taken. These preliminary tests are useful chiefly to give a general idea of the state of the specimens as they reach the laboratory and seldom yield information of any importance except for purposes of control. Microscopical preparations are then made with the cream and sediment of the centrifugalised milk. One drop of the cream is taken with a sterilised platinum loop and spread on a cover-glass and allowed to dry; the cream together with the milk is then removed by means of a wide pipette connected with a vacuum apparatus, this is done with the tube standing vertically and without disturbing the sediment. When only a thin layer of milk remains the tube is inclined gently so as to expose the sediment which adheres firmly to the bottom of the tube and a small drop of it is taken and spread on a cover-glass; this is done with a platinum loop holding from 2 to 3 milligrammes. Several cover-glasses are prepared in this way. Some drops of cream and sediment can then be examined at once for the detection of cells, foreign bodies, and motile bacteria. The other drops spread in thin layers are allowed to dry, passed three times through the flame of a Bunsen burner and then left for several hours (usually twenty-four) in a mixture of equal parts of ether and absolute alcohol. At the end of that time the alcohol and ether are heated over a water bath to complete the extraction of the fat, the cover-glasses are taken out, washed with absolute alcohol, and are then ready for staining by one of the usual methods. If they are stained for tubercle bacilli the "Ziehl Neelsen" method is most suitable. But if one desires to stain the preparations with ordinary solutions of aniline dyes for special purposes the film should be submitted first to the action of some dilute acid for a few seconds. I find that sulphuric acid 10 per cent. answers very well for this purpose. If acid be not used the proteid matter coagulated on the cover-glass in the spaces between the fat glands stains deeply and neither micro-organisms nor cells can be seen distinctly. This allows one, however, to obtain a permanent preparation showing clearly the number and size of the fat globules. Immediately after preparing the films two guinea-pigs are inoculated, each with the sediment of 40 c.c. of milk. The sediment contained in each tube is mixed with a little of the supernatant milk, so as to make a total quantity of 2 c.c. for subcutaneous injections and 5 c.c. for peritoneal inoculations.

The results obtained by these methods have already been recorded in Dr. Niven's "Report on the Manchester Cowsheds" issued at the beginning of 1897. In Professor Hope's "Report of the (Liverpool) Medical Officer of Health on Tuberculosis as affecting the Milk-Supply of the City" (May 6th, 1897) the results of another investigation, having for its object the detection of tubercle bacilli in milk supplied to cities, are given. Both in Manchester and in Liverpool a large number of specimens supplied from the country to town milk-sellers have been collected by inspectors at railway stations or elsewhere as the milk reached town. I have examined all the specimens collected in Manchester and part of the specimens collected in Liverpool—in all eighty samples. The method followed by me was exactly the same as the one already described.

Regarding the value of the methods I have described I may say at once that the microscopical method is of very little use for the detection of tuberculous milk. It is only when tubercle bacilli are very abundant that they can be discovered without a considerable loss of time. Even after separating the sediment in which a large portion of the bacilli are found it is necessary to examine several preparations before one or two bacilli can be discovered. The amount of sediment obtained from 80 c.c. of milk seldom exceeds, it is true, 200 milligrammes, but supposing there were 300 bacilli in the 80 c.c. of milk examined and that 200 had been carried down into the sediment (many are carried up with the cream) the search might be very lengthy. If the bacilli were very equally distributed in the sediment each milligramme of the sediment

[2] We hope however to be able, before long, to extend our work in that direction.

would contain one bacillus, and as each film is prepared with two or three milligrammes of sediment not more than two bacilli should be expected on each preparation. But many of the bacilli are found in small groups of three, five, ten, or more. It is not likely, therefore, that there would be more than forty of these groups in the sediment, and it might be necessary to examine as many as five drops before bacilli were detected even in the case of a milk containing the large number of bacilli I have supposed. On this supposition there should be nearly 10,000 bacilli in a pint of milk, and yet it might take several hours to detect them unless, as sometimes is the case, some were found in the first drop examined. This shows that when tubercle bacilli are easily found in a sample of milk by the microscopical method, the bacilli are usually very abundant, but when the tubercle bacillus is not found, even after a search extending over several hours, it is not safe to assume that the milk was not tuberculous and incapable of doing harm. On the other hand it is well known that when a guinea-pig is inoculated with even a few bacilli it invariably becomes tuberculous. Were they ten times less numerous than I have supposed in the example I have just given, the number of tubercle bacilli found in the sediment of 40 c.c. of milk would be still easily detected, since material containing eight or ten tubercle bacilli, revealable by ordinary staining reactions, would be enough to produce tuberculosis in the guinea-pig. There can be therefore no doubt as to the superiority of the inoculation method when exact results are wanted. This is well shown by the outcome of the investigations to which I have already referred. Taking only two of the series of samples I have examined: Of twenty-four specimens of unmixed milk obtained from tuberculous cows, two were found by microscopical examination to contain tubercle bacilli clearly demonstrable; six were found to be tuberculous by the inoculation method, including the two in which bacilli had been detected microscopically. Of forty-five specimens of mixed milk (in which the milk of tuberculous cows was diluted with milk of non-tuberculous cows) it was not possible in any case to discover the tubercle bacilli by a careful examination of two drops of sediment. Three of these specimens were proved to be tuberculous by the inoculation method.

The microscopical examination, however, is not without use, for in all the cases which were proved to be tuberculous by inoculation the milk was found to contain a large number of leucocytes and epithelial cells; this presence of cells was also recognised in milk coming from udders affected with non-tuberculous mammitis and therefore is not diagnostic of tuberculosis, but tuberculosis was never communicated in my experiments by milk poor in cells. This is a confirmation of the well-known fact that the milk of tuberculous cows does not as a rule become infectious when the udder is not tuberculous.

The testing of milk by inoculation is not only useful with regard to tuberculosis, for in a large proportion of cases milk which has been badly kept exhibits virulent properties in various degrees. Thus, after excluding the tuberculous samples, I can classify the samples I have examined as follows:—

—	Unmixed milk.	Mixed milk.
	Per cent.	Per cent.
With no noxious properties	60·5	40·8
Slightly irritating	38·5	40·3
Highly virulent—i.e., causing acute purulent peritonitis or rapidly fatal septicæmia	—	19·2

It will be at once evident that the properties of mixed milk which are capable of producing mischief are much greater than that of unmixed milk. I cannot here enter into details which have been recently published in the *Journal of Comparative Pathology and Therapeutics* (December, 1897), but I may state that this difference is chiefly due to the multiplication of micro-organisms which are introduced into the milk at the time of milking or afterwards when the milk is unduly exposed to various contaminations; when the temperature is favourable the microbes multiply very rapidly. This occurs chiefly in summer and I have found good reasons to believe that it is a very important cause of summer diarrhœa.

It is well to remember that the bacillus which is most to blame, increases rapidly in number when milk is kept, and especially when kept at summer temperature, causes great mortality in the guinea-pigs inoculated peritoneally. It is therefore most important in conducting any investigation on tuberculosis to inoculate as soon as possible after milking in order to prevent the mortality and lesions due to that microbe.[3] There remains only to add that to ensure thoroughness in investigations of this kind it is desirable that certain data should be supplied with each sample of milk. The following schedule which I have adopted for unmixed milk collected in the stable has been of great use to me.

This Label is to be fixed to each Sample of Milk sent to the Bacteriological Laboratory for Analysis, and all the information obtainable entered under the following heads.

Name of Farm Lab. M. No.
Situation
Description of Cow
No. of Cows kept in same Byre
Byre:—Clean, Not clean; *Ventilated*: Well, Badly; *Lighted*: Well, Badly
Hands of Milker:—Clean, Not clean. *Teats*:—Clean, Not clean.
Does the Cow show any evidence of Disease? *Where?*
Has the Cow been submitted to tuberculin test? *Reaction*: Yes or No.
Nature of Food.
Quantity of Milk yielded
Date of Milking *hour* A.—P.M. *Signature of*
,, *Bottling Sample* *id.* A.—P.M. *Inspector*
Bottle sterilised or not

N.B.—Bottle, which should hold 8 oz., can be sterilised by boiling half hour in water after cleaning. Stopper should be of indiarubber and also sterilised.

With regard to unmixed milk it is desirable to know (1) the farm from which the milk comes; (2) the time of milking; (3) the time of collecting the specimen; (4) the temperature of the milk at the time of collection, and also the external temperature; and (5) that the bottle in which the specimen was collected had been sterilised. Other questions are of interest from an administrative point of view, but for investigation purposes the above are the most useful in helping to interpret the results obtained.

(To be continued.)

THE HISTORY OF TYPHOID FEVER IN MUNICH.[1]

BY CHRISTOPHER CHILDS, M.D. OXON., D.P.H.

THE history of typhoid fever in Munich during the last fifty years is for many reasons of the greatest interest. The extraordinary prevalence of this disease in the city during the sixth, seventh, and eighth decades of this century and its extraordinary reduction since 1880 probably present a unique record in epidemiological history. Especial interest is added to this record by the fact that Professor von Pettenkofer and his school concluded long ago that no connexion could be traced between the incidence of typhoid fever and the distribution of the drinking water in the city, but that a very distinct causal relation was indicated between the incidence of the typhoid fever and the conditions of the soil. There is probably no place in the world which has afforded or can afford such opportunities for deciding how far the nature and conditions of the soil and how far the character and distribution of the water-supply have contributed to the production and reduction of epidemics of typhoid fever; and since the conditions of the disease-incidence, of the soil, and of the water-supply have been most carefully and systematically observed by Pettenkofer and other high authorities in Munich during the last forty years their records are worthy of the attention of every student of epidemiology.

From Tables I. and II. it will be seen that the mean annual mortality from typhoid fever per 100,000 inhabitants in Munich was—202·4 in the sixth decade; 147·8 in the seventh decade; 116·7 in the eighth decade; 16·0 in the ninth

[3] Or else the milk must be kept in ice from the time of collection to that of examination.

[1] A paper read at the meeting of the Epidemiological Society of London on Jan. 21st, 1898.

decade; and 5·6 in the period 1891–1896. It will be noticed that the course of the disease was varied by large epidemic waves which extended over periods of nine, seven, nine, and five years respectively. These waves gradually decreased in magnitude and towards the end of 1880 collapsed abruptly; they have not risen again. The mean annual typhoid mortality, which had been 116·7 in the eighth decade, was suddenly decreased to 16, so that the mean annual typhoid mortality of the ninth decade was less than one-seventh of what it was in the eighth. During the six years 1891–1896 it has been still further reduced to 5·6—i.e., less than one-twentieth of what it was in the eighth decade. During the last three years it has been only 3·2. The epidemics may be said to have ceased in the autumn of 1880.

TABLE I.—*Deaths from Typhoid Fever in Munich.*

Year.	Inhabitants.	Annual.	Per 100,000 Inhabitants.	Year.	Inhabitants.	Annual.	Per 100,000 Inhabitants.
1851	123,957	123	99·0	1874	181,300	289	159·0
1852	125,588	152	121·0	1875	187,200	227	121·0
1853	127,219	235	184·0	1876	193,024	130	67·0
1854	128,850	293	227·0	1877	205,000	173	84·0
1855	130,481	253	193·0	1878	211,300	116	55·0
1856	132,112	384	291·0	1879	217,400	236	109·0
1857	133,847	390	291·0	1880	223,700	160	72·0
1858	135,733	453	334·0	1881	230,028	41	18·0
1859	137,005	240	175·0	1882	236,400	42	18·0
1860	140,624	153	109·0	1883	242,800	45	19·0
1861	144,334	172	119·0	1884	249,200	34	14·0
1862	148,200	300	202·0	1885	255,600	45	18·0
1863	154,602	252	165·0	1886	262,000	55	21·0
1864	160,828	397	247·0	1887	268,400	28	10·0
1865	167,054	338	202·0	1888*	292,800	31	10·5
1866	168,265	342	203·0	1889	306,000	31	10·1
1867	169,476	88	52·0	1890	331,000	28	8·5
1868	170,688	136	80·0	1891	357,000	24	6·4
1869	170,000	190	111·0	1892	372,000	11	3·0
1870	170,000	254	149·0	1893	385,000	57	14·8
1871	170,000	220	129·0	1894	393,000	10	2·5
1872	169,693	407	240·0	1895	400,000	15	3·7
1873	175,500	230	131·0	1896	412,000	14	3·4

* This table is taken from Pettenkofer's "Munich a Healthy City" up to 1887 inclusive; after 1887 from returns obtained from the Statistical Bureau.

TABLE II.—*Deaths from Typhoid Fever in Munich.*

—	Total.	Total annual mean.	Annual mean per 100,000.
1851 to 1860	2376	287·6	202·4
1861 to 1870	2463	246·9	147·8
1871 to 1880	2184	218·8	116·7
1881 to 1890	383	38·3	16·0
1891 to 1896	131	21·8	5·6

The mean annual death-rate from typhoid fever per 100 000 in England and Wales has decreased considerably since 1870, but not nearly so much as in Munich.

This rate was 32·55 in the eighth decade; 19·76 in the ninth decade; and 17·38 in the period 1891–1895—*i.e.*, there was a reduction in the ninth decade nearly to one-half of what it was in the eighth; since 1890 the reduction has been continued to a very slight extent. Whilst in England and Wales the reduction has been nearly to one-half, in Munich it has been more than twenty-fold.

Evidence indicating that the records of this extraordinary reduction of typhoid fever mortality in Munich have not been miscalculated or exaggerated owing to errors in diagnosis.—The eminent pathologist, Professor von Buhl, drew up lists showing the monthly averages of deaths from typhoid fever which occurred in the Munich hospital and were verified by post-mortem examination during the years 1854 to 1864. Professor von Pettenkofer drew up similar lists of monthly averages of the deaths from typhoid fever recorded by the Munich physicians as occurring in the whole city during the years 1851 to 1867 and compared them with the lists of Professor von Buhl. Table III. shows these lists compared together. If the diagnosis of the cases recorded in the whole city were correct it might be expected that the monthly averages of these cases—taken over a long period of time—would bear an approximate ratio to the monthly averages recorded and verified in the hospital. As seen in Table III. the conformity between these ratios is very remarkable.

TABLE III.—*Showing the Monthly Average of Cases of Death from Typhoid Fever.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	—
(*a*)	33·5	36·8	31·8	23·1	17·6	15·2	15·8	16·7	16·1	15·0	19·0	28·5	In the whole city.
(*b*)	13·1	14·1	12·4	6·9	5·2	5·2	6·0	4·8	6·8	4·2	7·6	12·2	In the hospital.
(*c*)	12·8	14·1	12·2	8·8	6·7	6·7	6·0	6·4	6·2	5·7	7·3	10·9	*In the whole city ÷ 2·61.*

(*a*) Recorded in the whole city of Munich from 1851 to 1867 (Pettenkofer).
(*b*) Recorded in the hospital and verified by post-mortem examination during the years 1854–1864 (by Buhl).
(*c*) Recorded in the whole city (as above); divided by the factor 2·61. The factor 2·61 is obtained by dividing the maximum monthly average of the whole city by the maximum of the hospital. ("Munich a Healthy City.")

The great and unmistakeable decrease of typhoid fever in Munich is confirmed by Chief Staff-Surgeon Port's careful observations of the progress of the disease in the garrisons of the city (vide Table IV.).

TABLE IV.—*Mortality from Typhoid Fever in the Munich Garrisons from 1850 to 1881.*[a]

Year.	Strength.	Deaths in year.	Per 1000.	Year.	Strength.	Deaths in year.	Per 1000.
1850	5876	41	7·0	1874	6615	71	10·7
1851	6030	44	7·3	1875	6380	29	4·5
1852	5476	37	6·7	1876	5944	9	1·5
1853	5592	62	11·1	1877	5637	19	3·4
1854	5380	61	11·3	1878	6130	2	0·3
1855	5445	77	14·1	1879	6066	22	3·6
1856	4875	29	18·2	1880	5997	6	1·0
1857	4828	58	10·8	1881	5490	0	0·0
1858	4931	80	16·2	1882	6848	2	0·3
1859	5901	59	10·0	1883	7035	1	0·14
1860	5781	31	5·3	1884	7112	3	0·42
1861	5719	24	4·2	1885	6820	1	0·15
1862	5582	55	9·8	1886	6562	1	0·15
1863	53.0	27	5·1	1887	6912	2	0·29
1864	5312	62	11·6	1888	7527	2	0·26
1865	5090	21	4·1	1889	7395	0	0·0
1866	—	57	—	1890	7398	2	0·27
1867	5646	8	1·4	1891	—	—	—
1868	—	23	—	1892	—	1	—
1869	6188	33	5·3	1893	—	—	—
1870	(1)—	15	—	1894	—	—	—
1871	(1)—	14	—	1895	—	—	—
1872	5523	55	9·9	1896	—	—	—
1873	5915	42	7·1				

The mortality from typhoid fever per 1000 men in these garrisons in the sixth decade was 11·80; in the seventh decade was 5·93; in the eighth decade was 4·97; and in the ninth decade was 0·19.

The great decrease of typhoid fever in Munich during the ninth decade is also corroborated by Ziemssen's tables, which show that the decrease of morbidity (as indicated by the number of cases of typhoid fever admitted to the

[a] Port: Archiv für Hygiene, 1883, p. 67.

hospital) was even a little greater than the decrease of typhoid mortality as recorded in the whole city.

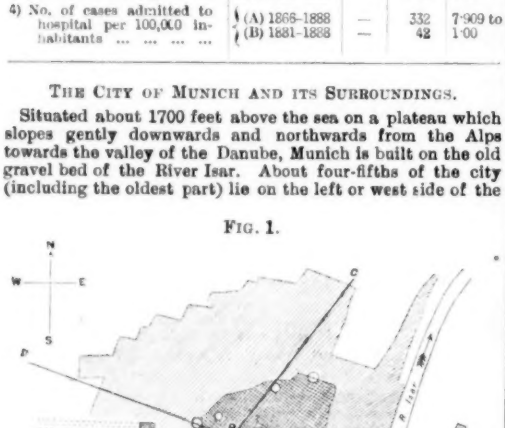
TABLE V.—*Von Ziemssen's Tables.*

——	Period.	Total No.	Annual mean.	Ratio of the annual means.
(1) No. of deaths from typhoid fever recorded in Munich	(A) 1866–1880	3198	213·2	5·31 to 1·00
	(B) 1881–1888	321	40·1	1·00
(2) No. of cases of typhoid fever admitted to hospital	(A) 1866–1880	8932	595	5·72 to 1·00
	(B) 1881–1888	831	104	1·00
(3) Mortality per 100,000 recorded in the city	(A) 1866–1880	—	117·4	7·33 to 1·00
	(B) 1881–1888	—	16·0	1·00
(4) No. of cases admitted to hospital per 100,000 inhabitants	(A) 1866–1888	—	332	7·909 to 1·00
	(B) 1881–1888	—	42	1·00

THE CITY OF MUNICH AND ITS SURROUNDINGS.

Situated about 1700 feet above the sea on a plateau which slopes gently downwards and northwards from the Alps towards the valley of the Danube, Munich is built on the old gravel bed of the River Isar. About four-fifths of the city (including the oldest part) lie on the left or west side of the river, the remaining fifth being built on the more highly situated bank on the right. This gravel bed varies in thickness from about 10 ft. in the northern part of the city to about 50 ft. and more in the southern part. Immediately beneath the gravel is extended a vast stratum of impermeable marl (named Flinz). Over the surface of the marl flows the subsoil water (Grundwasser), a great subterranean stream, not only underlying the whole city, but extending for great distances beneath the surface of the Munich plateau. This subsoil water has its source chiefly from the wide expanse of uninhabited area which extends at a higher elevation to the south of the city.

FIG. 1.



MAP OF MUNICH.

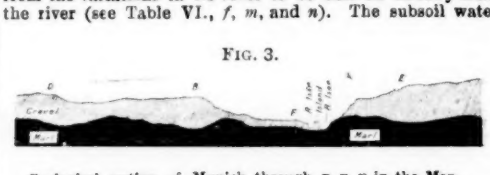
The diagonal lines indicate the inhabited parts of the city. The darker centre indicates the old city. The sources of the public water-supplies are indicated by circles. B B marks the well in the Courts of Justice (Stadtgerichtshof).

FIG. 2.

Geological section of Munich through the line A B C in the map (Fig. 1) showing the approximate height and flow of the subsoil water.

It flows in a north-easterly direction, almost parallel to that of the River Isar. The level of the subsoil water is liable to variations remotely dependent on the preceding rainfall. The range of these oscillations extends from 0 up to about 8 ft.; more usually, however, only from 1 ft. to 2 ft. They show remarkable uniformity throughout the area of the whole city. Speaking generally, the level of the subsoil water is highest in the summer and autumn, lowest in the winter months. The surface of the impermeable Flinz slopes gently downwards in a northerly direction (though not so much as the surface of the soil) and presents many inequalities—elevations, depressions, and horizontal stretches—which greatly modify the depth and current of the subsoil water. When the level of the subsoil water is low it stagnates in some of the depressions, leaving some of the elevations dry; whereas when the level is high it flows freely over the inequalities, washes through and cleanses the overlying gravel, removing from it the impurities which have accumulated during the previous drought. Chemical analysis shows the subsoil water to be of comparative purity before it enters under the area of the city (see Table VI., *b* and *c*); as it enters under the inhabited parts it shows signs of great and increasing pollution (see Table VI., *e*, *g*, and *h*). Exceptions to these rules are found in the subsoil water in those districts adjoining the River Isar, where it has been shown from its exceptional purity and from the variations in its level to be derived directly from the river (see Table VI., *f*, *m*, and *n*). The subsoil water has been found to be purer as a rule when it falls, more polluted when it rises. Numerous branches of the River Isar still flow through the heart of the city, forming a meshwork of streams (Stadtbäche), which run with great swiftness through and around the older part, covered generally by the streets and buildings, but coming here and there into view, and reuniting to the south of the city to form larger streams which discharge eventually into the Isar.

FIG. 3.



Geological section of Munich through D B E in the Map (Fig. 1), showing the gravel bed on which the city is built.

DRAINAGE OF MUNICH DURING THE SIXTH DECADE.

From time immemorial until 1858 nearly all excreta were deposited in privies and cesspits, so constructed that their liquid contents drained away into the porous soil. By similar arrangements the slops and liquid refuse from the houses were allowed to soak away into the soil. The remaining refuse appears to have been discharged into the city streams and the river. In 1858 an order was issued that all cesspits in the city should be made watertight. The inspection, emptying, and repairing of these cesspits were entrusted to the officials of the municipal authorities. This order could only be carried out by degrees. The slops and other liquid refuse from houses, &c., were still committed chiefly to the soil until 1878; but from that year up to the present time they have gradually been cut off from the soil and conveyed into the city sewers. Until 1858 only the old city and some of the suburbs on the right of the Isar appear to have had sewers. After that time the systematic drainage of those parts surrounding the old city (Max-vorstadt and Ludwigvorstadt) was begun and carried on until 1878. Since then—from 1881 up to the present time—the sewerage and house-drainage of the rapidly growing city have been gradually improved and carried out according to the plans of the English sanitary engineer, Mr. Gordon. Since 1893 the old watertight cesspits have been rapidly replaced by water-closets.

WATER-SUPPLIES OF MUNICH: FROM 1851 TO 1865.

During this period and from the beginning of the century the city was supplied with drinking water entirely from the subsoil water—partly by the Royal waterworks (seven in number), partly by the municipal waterworks (six in number), and partly by private wells. Three of the Royal waterworks collected water from three different springs on the east side of the river and four from four large wells in different

districts of the old city. The chief of the municipal waterworks was supplied from springs on the right side of the Isar; a small spring on the same side of the river supplied the adjoining suburb of Au; the remaining four municipal waterworks derived their water from wells either in or immediately outside the old city. All these sources were more or less surrounded by houses and other buildings and subject to constant pollution from leaking cesspits, house-refuse, slaughter-houses, &c. The sources on the right bank of the Isar, which was comparatively thinly populated, were not liable to such extensive pollution as the wells of the old city. Yet the crude analyses made at this period showed that they were contaminated with a large amount of organic matter. The analyses of all these wells, springs, and other sources which have been made up to the present time—with few exceptions—show evident signs of organic pollution. In 1865 a considerable water-supply was added to the southern and western districts of the city by the Pettenkofer waterworks, the water being derived from subsoil springs in the southern area above the city, an uninhabited district. The analysis of this water (see Table VI. *b*), illustrates the purity of the subsoil water before it is contaminated by the city. It was not until 1883 that the present fine highland water-supply (the Hochquelle-leitung) was introduced, the water being derived from springs and streams impounded in the Mangfall valley of the Bavarian Alps (about twenty miles away). This water has been gradually distributed to the different parts of the city and has now supplanted nearly all the old water-supplies. Its analysis shows it to be of exceptional purity (see Table VI., *p*). From a study of the large number of chemical analyses of the water-supplies of Munich, recorded in the *Zeitschrift für Biologie* and elsewhere during the seventh and eighth decades, it may be seen that the pollution was very large and general, the evaporation residues varying from about 40 per 100,000 to nearly 200. In 1892 the analysis of the wells still existing in Munich (over 1300 in number) was undertaken by Dr. Sendtner and a staff of assistants. Some of these analyses made in 1892 have been selected and are recorded in Table VI.[3]

PETTENKOFER'S RESEARCHES.

Beginning in 1854 as a believer in the constant convection of typhoid fever and cholera by the drinking-water Pettenkofer first turned his attention to the distribution of cholera during the great epidemic of that year. He expected to find exceptional opportunities for proving the truth of the drinking-water theory owing to the number and peculiar distribution of the many different water-supplies in the city. He ascertained the water-supply of each single house by means of the Royal and Municipal Water Rates and by personal inspection; but in all cases his expectations were disappointed and he could find no connexion, local or temporal, between the water-distribution and the cholera outbreaks.[4] He made similar investigations with regard to the typhoid fever incidence in Munich and the distribution of the different water-supplies and always with similar results. He could never trace any of the local outbreaks which frequently occurred to any of the many separate water-supplies. Finally, he was convinced that in Munich there was not the slightest connexion between the drinking water and the typhoid fever. He next turned his attention to the conditions of the soil. In 1856 the observations of the height of the subsoil water in various parts of the city were begun; these have been continued up to the present time. In Fig. 4 the monthly returns are represented—(1) of the height of the subsoil water in Munich; and (2) of the number of deaths from typhoid fever.

From this chart it will be seen that there is a remarkable correspondence—*(a)* between the rise of the subsoil water and the fall of the typhoid fever prevalence; and *vice versâ* *(b)* between the fall of the subsoil water and the rise of the typhoid fever prevalence, until the time when the epidemic waves began to subside.

Thus a rapid fall in the subsoil water is followed by a great outbreak of typhoid fever, as shown especially in the winters of 1857–1858 and 1865–1866; a rapid rise of the water by sudden decrease of the epidemic, as shown especially in the early months of 1858 and 1866. Whilst the subsoil water is at a high level the typhoid fever prevalence is at its lowest—e.g., during the years 1860 and 1861, 1867 and 1868. During the winters of 1871, 1872, 1873, and 1874 the rapid fall of the subsoil water is followed in each instance by considerable epidemics. After 1874 the fall of the subsoil water appears to be followed by abortive and irregular attempts at epidemics until 1880; after which year they ceased altogether.

This constant relation between the variations of the level of the subsoil water and the variations in the typhoid fever mortality is confirmed in a remarkable manner by Dr. Port's observations on the typhoid fever mortality in the Munich garrisons during the ten years 1872–1881 as recorded in Fig. 5.

Pettenkofer's theory with regard to the conditions necessary for the spread of typhoid fever epidemics.—(*a*) The presence of the specific typhoid poison in the soil; (*b*) pollution of the soil, together with certain conditions of porosity affected by temperature and moisture or oscillations of the subsoil water; and (*c*) the presence of inhabitants predisposed to the disease. He does not consider the subsoil water in itself as favourable in any way, but only as an index of the humidity and of certain unknown conditions and processes in the soil above it. In his opinion, if the conditions of moisture and of the soil are favourable, epidemics of typhoid fever may occur even when there is no subsoil water at all.

TABLE VI.—*Chemical Analysis of the Drinking Waters of Munich (parts per 100,000).*

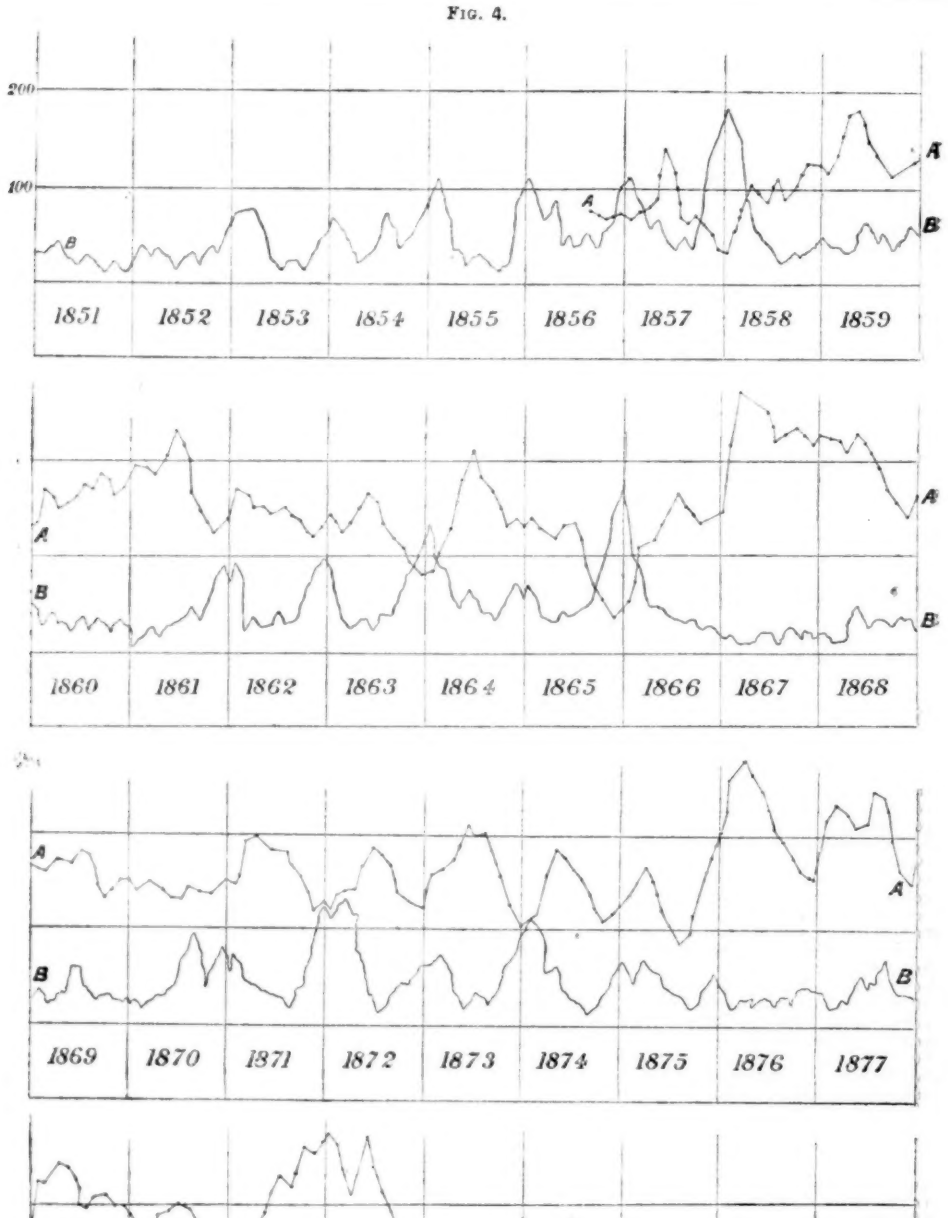
Date.		Source.	Residue dried at 100° C.	Chlorine.	NH_3.	Nitrites.	N as nitrate.	Oxygen required.
1892.								
	(*a*)	Isar River.	20·9	0·15	—	—	0	0·21
	(*b*)	Pettenkofer Waterworks (Thalkirchner Wasser).	27·2	1·0	—	—	0·3	0·09
	(*c*)	"Normal" subsoil water.	32·5	1·4	0	0	0·25	0·2
	(*d*)	Royal Waterworks (from springs on right side of Isar). Mean of 23 samples.	47·3	1·93	0	0	1·15	0·082
Near the line A B C in the Map (Fig. 1)	(*e*)	No. 28, Lindwurmstrasse (near south end of city).	34·0	1·45	0	0	0·70	0·064
	(*f*)	No. 17, Erhardtstrasse (close to River Isar).	17·6	1·184	0	0	Traces	—
	(*g*)	Courts of Justice (Stadtgerichts-hof); in heart of old city.	62·0	5·04	0	0	3·02	0·042
	(*h*)	No. 10, Amalienstrasse (in south end of city).	82·4	7·27	0	0	3·7	0·102
Near the line D E F in the Map (Fig. 1).	(*k*)	Well at north-west end of city, 186, Nymphenburgstrasse.	33·2	0·81	0	0	0·48	0·05
	(*l*)	In city, near railway station, 4, Luitpoldstrasse.	86·6	5·82	0	0	6·40	—
	(*m*)	On Kalkofen Island (in the River Isar).	17·0	0·48	0	0	Traces	0·075
	(*n*)	In city, near the river, 54, Baaderstrasse.	23·8	0·58	0	0	0·37	0·183
	(*o*)	In suburb, Haidhausen, to east of River Isar, 125, Rosenheimerstrasse.	33·4	0·97	0	0	0·61	0·015
1886.								
	(*p*)	The Hochquelle-leitung, the new highland water-supply to Munich.	30·0	0·45	0	0	0·18	0·08

Methods of analysis used.—Residue, by drying at 100° C. in an air-bath; chlorine, by Mohr's method (with silver nitrate); ammonia, by direct addition of Nessler's reagent; nitrites, by zinc-iodide and starch solution; nitrogen as nitrate, with diphenylamine, or by the Marx-Trommsdorff method (with indigo), or by the Schulze-Tiemann method (with ferrous chloride); oxygen required, by Kubel's method (by boiling for five minutes exactly with potassium permanganate, and hydrogen sulphate, and subsequent titration with hydrogen oxalate).

[3] Sendtner: Das Grundwasser in den einzelnen Stadttheilen München's. 1894.

[4] Pettenkofer: Verbreitungsart der Cholera.

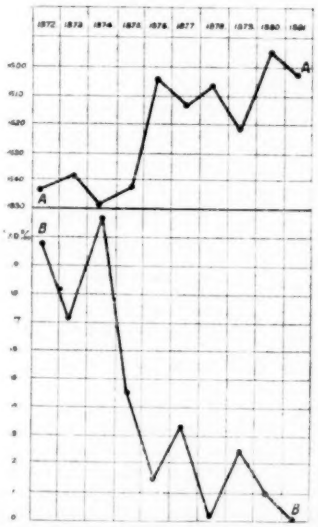
FIG. 4.



A A, Monthly variations in height of subsoil water in Munich. B B, Monthly variations in typhoid mortality per 100,000 n Munich.

The great decrease of typhoid fever in Munich since the sixth decade must be attributed chiefly to the removal of those causes which for so long had been producing extraordinary dampness and pollution of the soil immediately around and beneath the dwellings of the whole city. From the time when the cesspits were made water-tight (from 1858) the gradual reduction of active pollution must have been enormous, whilst the natural agencies of the soil, aided by the system of sewerage which has been extended throughout all parts of the city, must have gradually diminished the accumulated stock of dampness and organic saturation. Finally, the sudden abolition of the 800 slaughter-houses in the city in 1878 removed the chief remaining active agent of soil-pollution. It is obvious that the subsoil-water, which

FIG. 5.



A A, Mean annual level of the subsoil water at the Military Hospital, Munich, in centimetres below the surface. B B, Typhoid mortality per 1000 men in the Munich garrisons from 1872 to 1881 inclusive.

until 1883 supplied nearly the whole city with drinking-water, must have shared largely in this gradual and general purification; and, indeed, a study of the chemical analysis of the 1342 wells of the city made by Dr. Sendtner and his staff in 1892 will show that the pollution of the great majority of these wells is due more to the presence of effete and oxidised organic matter than to recently contributed organic pollution. This fact is well illustrated in the case of the well in the Courts of Justice (Stadtgerichtshof): *vide* Fig. 1 and also Table VI. *g*. The analysis of this well shows that the nitrates (calculated as potassium nitrate) formed more than one-third of the evaporation residue, and the chlorides (calculated as potassium chloride) rather more than one-sixth. The oxidisable matter, on the other hand, is very small in amount and no traces of ammonia or of nitrites were found.

Unfortunately I have not been able to discover many records of the amounts of chlorine, ammonia, nitrites, nitrates, and oxidisable matter in the earlier analyses. But Dr. Sendtner in his book (pp. 62–68) gives the analyses which he made between 1880 and 1890 of seventy-five wells. In these analyses the presence of ammonia and of nitrites in large quantities (indicating recent organic contamination) is frequently recorded, in striking contrast to the 1342 analyses made in 1892—i.e., some ten to twenty years later—in which traces of ammonia and nitrites are rarely reported. In an analysis of the Stadtgerichtshof well recorded by Pettenkofer[5] and dated 1871 the oxidisable matter is far greater, the nitrate far less than it was in 1892, indicating that it was still subject to some active organic pollution in the earlier period, whilst only effete and oxidised organic matter is contributed to the water at the present time. This well is of very special interest. It may be taken as an average sample of the many wells which formerly existed within the city. It was in much request because of its coolness and fine flavour. Standing in the centre of a courtyard of what was formerly a convent—in the heart of the old city—it was surrounded by numerous cesspits and other sources of organic filth and excremental pollution. The analyses of the water, which have been made at very frequent intervals during the last fifty years, have always shown a large amount of contamination. The evaporation residue has generally varied from 60 to 65 parts per 100,000. (In 1892 it was 62.) The highest amounts recorded were between the summer of 1866 and the winter of 1868, a time when the typhoid incidence of the epidemic periods was extraordinarily low. It reached as much as 111 parts per 100,000 in the summer of 1867, when the typhoid incidence of those periods was at its very lowest. At this same time there were signs of greatly increased pollution in nearly all the analyses of wells which I have been able to find. Pettenkofer frequently calls attention to the fact that he could never find that the consumers of this well water at any time suffered more or less from typhoid fever than those deriving their water-supply from other sources.

A study of the 1342 chemical analyses of the wells in Munich in 1892[6] would be of great interest to water-analysts. In the majority of the highly polluted wells, whilst the amounts of evaporation residue of chlorine and of nitrogen as nitrates are very great (viz., from 100 to 150, from 5 to 18, and from 1 to 7 parts per 100 000 respectively), no trace of ammonia or of nitrites has been detected, and the amount of oxygen required (for oxidation of the organic matter) has frequently been less than 0·2 parts and seldom above 0·4 parts per 100 000. It will be well here to review the evidence which indicates that the prevalence and reduction of the typhoid fever in Munich have been independent of the drinking water. In the first place there are Pettenkofer's own observations, made in 1854 and afterwards, from which he concluded that, in spite of his searching investigations, no connexion could be traced out between the distribution of the drinking water and the incidence of typhoid fever. So also he observed that those who made use of the Pettenkofer waterworks water (which was introduced in 1865 and was immediately followed by a great epidemic) suffered just as much from the epidemic as those who continued to drink the old water-supplies. Of these personal observations I have not succeeded in finding recorded details; but they derive their weight from the high authority of Pettenkofer himself. For confirmatory evidence of these conclusions we have the chemical analyses made by Wagner and Aubrey of a large number of wells over a long series of years, from which they were led to announce the general rule that the subsoil water was more polluted when it was high than when it was low—i.e., that during the periods of typhoid fever epidemic the drinking-water was purer than when the typhoid fever incidence was small.[7] Further corroborative evidence is derived from the remarkable results obtained by Dr. Port with regard to the Munich garrisons, as shown in Table VII. From this table it will be seen that those garrisons which were supplied with

TABLE VII.—*Chemical Analysis of the Water-supplies the Munich Garrisons and Mortality from Typhoid Fever per 1000 Men, 1872–1881.*[8]

Garrisons.	Parts per 100,000. Residue at 105° C.	Organic matter.	N as nitrates.	N_2O_3.	NH_3.	Chlorine.	Typhoid mortality per 1000 men.
Max II. ...	60—77	2·5—6·0	1·25—1·7	Traces	Traces	2·8—3·6	1·2
Turken ...	47—72	1·8—2·8	1·7 —2·25	0	0	2·8—3·5	3·9
Salztadel ...	60—63	1·8—2·0	1·25	0	0	2·4—2·6	—
Hofgarten ...	27—45	2·5—5·0	0·8 —1·5	0	0	2·1—2·1	7·1
Lehel	50—56	5·0—5·6	0·8 —0·9	0	0	1·7—2·1	2·8
Neue Isar ...	28—35	1·1—4·1	0·15—0·9	0	0	1·0—1·8	10·6
Alte Isar ...	20—29	1·0—3·0	0·03—0·05	0	0	0·8	7·4

[5] Zeitschrift für Biologie, vol. x., p. 451.

[6] Sendtner, loc. cit.

[7] Zeitschrift für Biologie, Band ii. &c.

[8] Archiv für Hygiene, Band i., 1893.

exceptionally pure water during the ten years 1872–1881 suffered far more severely than those whose water-supply was obviously highly polluted.

Finally there is the great fact that the people of Munich were drinking the subsoil water, and that only, until 1883—three years after the epidemic waves had ceased—when the highland water-supply was introduced. This supply has slowly and gradually been distributed to the whole city. In 1884 Pettenkofer investigated the typhoid fever mortality in 871 houses containing 23,302 people who were still supplied by the old Royal waterworks. These waterworks had not altered their supply in any respect. He found that "they did not suffer more from typhoid than their fellow citizens who drank of the pure highland water-supply."[9] Recently Pfeiffer and Eisenlohr investigated the incidence of typhoid fever in certain districts during the years 1888–1892 with the aid of the lists of notification of the disease. They examined 665 houses in which there were 831 cases and found that 69·9 per cent. of the houses with 70·5 of the typhoid fever patients had been served exclusively with the highland water-supply.[10]

CONCLUSIONS.

Taking all the above facts into consideration, it must be admitted that the evidence is very strongly in favour of the conclusion that whilst the great decrease of typhoid in Munich has been due in a general way to improved sanitary conditions, and possibly in some measure to decreased pollution of the water, (1) the drinking-water has not played an important part in producing and reducing the typhoid fever epidemics in Munich; (2) the great prevalence of typhoid fever in Munich was due to the great pollution of the soil (including specific pollution), modified by certain unknown conditions in the soil which are correlated with the movements of the subsoil water; and (3) the gradual reduction of the typhoid fever was due to the gradual purification of the soil;—and the abrupt termination of the epidemics to the sudden removal of all the slaughter-houses.

In our own country the number of epidemics of typhoid fever which have been shown to be connected with the water-supply is so large that we have difficulty in understanding how it is possible that there was not a similar connexion in Munich. It is difficult also to imagine the processes by which the typhoid virus is conveyed direct from the soil through the air into human beings, whereas the connexion through the drinking water seems to be extremely simple and probable. An explanation of these apparent discrepancies may possibly be found in the extraordinary conditions of the soil and subsoil water of Munich. Such conditions are not found on a large scale in this country. It is conceivable, for instance, that the typhoid virus may have been so far modified or destroyed by the time that it reached the great stream of subsoil water which flows underneath Munich that it seldom or never caused infection amongst those who were drinking that subsoil water. It is conceivable also that there are certain conditions of a soil owing to which typhoid infection may be conveyed through the air to those living on that soil and that such conditions were pre-eminently prevalent in Munich whilst they are limited and exceptional in this country. Our ignorance of the processes which the typhoid virus undergoes after leaving the patient forbids us to form absolute conclusions. It must be admitted that the custom has been too common in this country to look only for a polluted water-supply as the cause of outbreaks of typhoid fever, to make no further inquiry when such pollution has been proved, and to rest content with this evidence as a positive demonstration of cause and effect. Much still remains to be learnt from a study of comparative epidemiology and from a consideration of the conditions of water-supply, soil, drainage, &c., of those parts of the globe where typhoid fever is pre-eminently prevalent—especially, for instance, in India. From such a study we may reasonably hope to learn much that will explain the obscure cases of outbreak of typhoid fever, the sporadic and recurrent cases and, again, those in which the infection cannot be traced to the water-supply.

SUGGESTIONS.

(1) That the history of typhoid fever in Munich indicates that the conditions of soil near and underneath houses may be an important factor in the production of typhoid fever, and that in tracing out the causes of an epidemic the conditions of the soil should not be overlooked; (2) that the pollution of the soil with human and other organic refuse and, in addition, with typhoid virus may be the cause of some of the inexplicable cases of sporadic or of recurrent outbreaks and even of some outbreaks which have been too hastily attributed to polluted water or some other cause; (3) that it is very desirable to promote and extend experiments such as those of Professor Sidney Martin and others for the study of the life-history of the typhoid bacillus in the soil; and (4) that the establishment of an international epidemiological association and the study of comparative epidemiology would be of the greatest service and would probably help to throw much light on the still obscure and complicated problems involved in the study of the causes of typhoid fever and other similar diseases.

In conclusion, I am glad to have this opportunity of recording my sincere gratitude to the many kind friends in Munich who have spared no pains in helping me to investigate this very interesting history and of congratulating them upon the splendid results which they have achieved, through which their city—once terribly afflicted by typhoid fever—has become more free from that disease than almost any other city in the world.

Bibliography.—Zum gegenwärtigen Stand der Cholerafrage (v. Pettenkofer, 1887). Typhus-Mortalität in München, 1871–1880 (Köniiger, 1886). Die Abminderung der Sterblichkeitziffer Münchens, Singer, 1895. Geburten und Sterbefälle in München, 1896, &c. Zeitschrift für Biologie and Archiv für Hygiene—numerous papers. Bericht der Commission für Wasserversorgung, &c., 1876, 1877, &c.

Manchester-square, W.

[9] "Munich a Healthy Town."

[10] Archiv für Hygiene, Band xvii., 1893.

THE TREATMENT OF INOPERABLE SARCOMA BY MEANS OF COLEY'S FLUID.[1]

BY C. MANSELL MOULLIN, M.D. OXON., F.R.C.S. ENG.

SURGEON AND LECTURER ON SURGERY TO THE LONDON HOSPITAL; EXAMINER IN SURGERY AT THE UNIVERSITY OF OXFORD.

THERE are, I imagine, few subjects in surgery more urgent at the present time than the treatment of malignant growths which have passed the stage in which they are capable of being removed by operation. For such cases there is nothing left. The patient may be young and in the full vigour of life with, in every other respect, a prospect of a long career before him, or he may be old and fast breaking up; it makes absolutely no difference. The limits of operation have been reached; there is nothing more to be done. And the number of these cases is not only a very large one, but according to the Registrar-General's statistics, shows very little sign of decreasing. It is possible that with improved methods of diagnosis and as the not altogether unreasonable dread of operation grows less it may fall to some extent. As matters stand it is unfortunately only too true that hopeless recurrence is the fate of the greater number of those who suffer from sarcoma or carcinoma, whether they are operated upon or not. Nor is this all. This subject does not concern those only who have passed beyond the limits in which removal is possible. It concerns no less all those who suffer from malignant disease of any kind, whether they are capable of being operated upon or not. Whatever may be said in favour of our present method of dealing with malignant disease it is impossible to argue that even when it is successful it is an ideal one or incapable of improvement. In the vast majority of instances operation for malignant disease means mutilation, though from long habit we may not recognise it as such. Amputation is no remedy, though at present it seems to be the only method of treatment that holds out a prospect of saving life.

It is manifestly impossible to deal with so vast a subject as the treatment of malignant growths within the limits of an ordinary paper. I intend, therefore, to confine myself to that branch of it which seems to hold out the greatest amount of hope—the treatment of sarcomata by what is known as Coley's fluid, a mixture of the products of the growth of the streptococcus of erysipelas and the bacillus prodigiosus sterilised by heat. I have tried this fluid in ten cases altogether with varying degrees of success, and I propose first to lay before you the method in which by systematic scientific observation and experiment this mode

[1] A paper read before the Harveian Society on Feb. 3rd, 1898.

of treatment has gradually been evolved and then to deal as impartially as I can with the results that have been obtained by it.

It has been known for many years, according to Fehleisen since the seventeenth century, that not only malignant growths but chronic ulcers of the skin, lupus nodules, syphilitic sores, and other affections occasionally disappear with great rapidity after an attack of erysipelas. The number of cases that have been recorded with sufficient accuracy and detail is not a very large one it is true. They are undoubtedly of exceptional occurrence. Many of them are of somewhat ancient date, as might be expected from the fact that erysipelas is much less common now than it used to be and that the attacks are less severe than they were in pre-aseptic days. But after making full allowance for all these defects there still remains a sufficient number of well-authenticated instances to dispel at once the idea that the disappearance can be in any way due to mere coincidence. Placing on one side other affections and cases of carcinoma I have been able to find records of fifteen undoubted instances of sarcoma in which an accidental attack of erysipelas occurred. Of these fifteen no less than nine were cured, if by cure is understood complete disappearance of the growth with no recurrence for a period of sometimes so long as seven years. And in five of the remaining six the external aspect and the size of the tumour were profoundly altered for a time although no permanent cure resulted. I must remark by way of parenthesis that no deduction can be drawn from these figures as to the proportion of cases in which cure takes place after erysipelas. There is a very obvious fallacy. Only successful cases have been recorded. No special attention has been paid until the last few years to the effect of erysipelas upon malignant or any other growths and consequently no one in days gone by would have published or called attention to an attack of erysipelas occurring in a patient suffering from a malignant growth unless some definite or striking event followed from it. This fallacy, however, as Dr. Coley has pointed out, is confined to reports of cases in which erysipelas has been caused accidentally. It does not apply to cases in which erysipelas has been communicated purposely by inoculation or to those in which the toxins produced by the streptococcus of erysipelas have been injected. It is probable that all, or nearly all, of these have been recorded, whether successful or not, and the statistics that have been collected about them are only liable to the same fallacies as those that vitiate more or less the statistics of every other surgical operation. Some of these nine cases were of a very striking character. Bruns, for example, has recorded a case of melanotic sarcoma of the breast with enlarged glands in the axilla which was excised in 1880. Recurrence took place long before the wound was healed. Four weeks after the operation erysipelas broke out, the tumour vanished entirely, and eight years later the patient was perfectly well, without a recurrence of any kind. In a case published by Biedert, that of a girl eleven years of age, there was an enormous sarcoma of the tonsil protruding between the lips, projecting into the nose and orbits and blocking the pharynx, so that tracheotomy was necessary. Three days later an attack of erysipelas broke out and in six days the tumour had disappeared and the ulcerated surfaces were beginning to heal. Two years afterwards the girl was well except for the stenosis due to the cicatrices. A third, a sarcoma of the hip, which disappeared almost as rapidly, is recorded by Wyeth. The patient was a child seven years of age. The thigh was amputated through its lower third for sarcoma. Recurrence took place. Disarticulation at the hip-joint was performed. The tumour returned in the stump almost at once and formed a huge fungating mass. Erysipelas broke out. The growth sloughed away in a few days, the wound healed up and seven years later the child was well. A fourth case, recorded by Dr. Coley, was one of round-celled sarcoma of the neck operated upon five times by Dr. Bull of New York. The patient was given up as hopeless. Two attacks of erysipelas occurred, one shortly after the other, and seven years later the patient was alive and well. Such cases as these, isolated though they were, could not fail to attract attention, and even before the microbic origin of erysipelas was known several attempts were made at inducing an attack by means of inoculation. When Fehleisen discovered the streptococcus and it was shown that pure cultures could be obtained by growing it upon suitable nutrient media it was naturally not long before a systematic attempt was made. Fehleisen himself was the first. Seven patients, two affected with lupus, five suffering from hopeless malignant disease, were inoculated. One of these had recently had an attack of erysipelas and the inoculation failed. The six others reacted, although in the case of one of them, only the first inoculation was followed by any result. Coley and others quickly followed suit, but two things very soon became apparent. First, that it was exceedingly difficult in many instances to induce an attack. (In no less than five out of thirteen recorded by Coley, and in one of Fehleisen's seven, genuine erysipelas never occurred at all.) Secondly, that it was still more difficult to limit the effect of the attack when it did occur. There are twenty-five cases recorded in which an attempt was made to induce an attack of erysipelas by inoculation. In nearly all pure cultures were injected or rubbed in after the skin had been scarified. In one the patient was placed in a bed which had a notoriously bad history. Six of these, as already mentioned, never had a genuine attack, although in most of them many attempts were made. The patients were feverish, there was a certain amount of œdema and redness around the point of inoculation and they were ill for a few hours. But by the end of the first, or at the utmost, of the second day, the symptoms had disappeared. No less than four of the remaining nineteen patients died as a direct result of the attack. Fourteen of these cases were definitely sarcomata. One of them, under the care of Dr. Coley, a sarcoma of the neck that had already recurred twice, was cured—that is to say, four and a half years afterwards the patient was well in every respect. Another, a lympho-sarcoma of the neck which had resisted arsenic, under the care of Kleeblatt, disappeared entirely, but there is no record as to how long the patient remained well afterwards. In two others under the care of Dr. Coley, after repeated inoculation with living cultures each of which was followed by temporary improvement, a cure resulted from the use of the mixed toxins. (One of these Dr. Coley has since reported as having a recurrence in the abdomen more than three years after the last trace of the original growth had disappeared). Two others, an enormous sarcoma of the neck, under the care of Busch, and a lympho-sarcoma of the tonsil, under the care of Kleeblatt, almost disappeared, but as soon as the effect of the erysipelas had passed off began to grow again. Two of Fehleisen's diminished considerably for a time. Four were scarcely affected, and in the remaining two erysipelas never occurred at all. It is worth noting that in every single case in which erysipelas occurred the tumour showed some change, although in four of the twelve it was very slight. Only one was cured; in another the tumour disappeared and there is no further record. A third remained free from recurrence for upwards of three years.

The next step was to utilise Brieger and Frankel's discovery and employ the toxins produced by the streptococcus of erysipelas by themselves without the germ. Lassar was the first to do this. The case was one of epithelioma of the face supervening upon lupus. The toxins were separated by filtration, sterilised by steam, and injected into the nodules. Some local redness and œdema with general discomfort followed, but the tumour was not affected. In a little while, in spite of the dose being increased, tolerance was established and the treatment was abandoned as unsuccessful. Coley adopted the same plan in his earlier cases, the unmistakeable improvement that followed inoculations even when no erysipelas was produced leading him to believe that a portion, if not all, of the curative influence might be due to the toxins rather than to the action of the germ itself. He saw at once that this method possessed great advantages over inoculation with living organisms. It was much less dangerous. The dose could be regulated and the effect would be proportionate to the amount injected. Coley soon found that bouillon cultures sterilised by heating to 100° C. were too feeble. The effect was the same as in those cases in which living cultures were injected without causing erysipelas, but much less severe. Filtration through a Kitasato filter made them weaker still. Accordingly he made use of a fact discovered by Roger of Paris, that the bacillus prodigiosus, a non-pathogenic organism, has the power of intensifying the action of certain pathogenic germs and among others the streptococcus of erysipelas. Two solutions were prepared, one containing the toxic products of the streptococcus of erysipelas (from a fatal case); the other those of the bacillus prodigiosus. These were mixed, sterilised by filtration without the use of heat, and preserved by the addition of a few thymol crystals. The proportion

in which they were used was about one part of the bacillus prodigiosus toxin to four or five of the other. Injections of these mixed toxins caused a much greater effect. The reaction was more marked, a rigor was not uncommon, sometimes there was an outbreak of herpes labialis, and the effect upon the tumour was unmistakeably greater. Later, at the suggestion of Mr. Buxton, a further improvement was made and the germs were grown together in the same fluid. Shortly afterwards, in order to preserve whatever value might exist in the bodies of the germs themselves, the mixed cultures were heated to a temperature of 58° or 60° C. for an hour (this, according to Coley, being sufficient to render them sterile) and then used without filtration.

The following is the detailed account of the method at present employed. "Ordinary peptonised bouillon is put into small flasks containing 50 c.c. to 100 c.c., which, after proper sterilisation, are inoculated with the streptococci of erysipelas and allowed to grow for three weeks at a temperature of from 30° to 35° C. The flasks are then inoculated with the bacillus prodigiosus and the cultures allowed to grow for another ten or twelve days at room temperature. At the end of that time (after being well shaken up) the cultures are poured into sterilised glass-stoppered one-half ounce bottles and heated to a temperature of 50° to 60° C. for an hour sufficiently to render them perfectly sterile. After cooling a little powdered thymol is added as a preservative and the toxins are ready for use. The toxins when prepared in this way are very much stronger than when filtered through a Pasteur-Chamberland or Kitasato filter, the active principles contained in the germs themselves being preserved. If, as is sometimes the case, the preparation is found to be too strong to be used with safety, it can be diluted with glycerine or sterilised water. The best method of making the bouillon is to soak a pound of chopped lean meat overnight in water. In the morning strain it through a cloth, make up to 1000 c.c., and boil for one hour. Then filter through a cloth, add peptone and salt, neutralise and boil again for an hour. The bouillon will then pass through filter paper perfectly clear and be ready to put into the flasks. It is not, however, necessary to neutralise the bouillon as the streptococci will grow even more readily in acid bouillon and the resulting preparation is if anything stronger than when neutralised bouillon is used. In order to keep up the virulence of the cultures they are put through rabbits in the following way. The hair of the ear is clipped close with a pair of scissors and the skin washed with weak carbolic acid and then sterilised water. A minute quantity of a bouillon culture forty-eight hours old is then injected subcutaneously in four or five different places in the ear. Forty-eight hours later, after again washing the ear with carbolic acid and sterilised water, a flat needle sterilised in the flame is inserted under the skin at or near the point of inoculation and the layer of skin cut off with a sharp sterilised scalpel. The piece of skin is then rubbed well over the surface of an agar tube with a thick platinum wire needle. After twenty-four hours in the incubator the colonies of streptococci will show as minute white specks and from them a pure culture can be obtained. If the agar is made with 75 per cent. of bouillon and 25 per cent of urine, the streptococci will grow more freely than if bouillon only is used. The dose of this preparation varies from one to eight minims; I have had a temperature of 105° F. follow the injection of two minims. I usually begin with the minimum dose and gradually increase until the desired reaction—e.g., temperature 103° to 104° F.—is reached."

Coley lays great stress upon the necessity for employing virulent cultures only. In the successful cases the toxins were all made from cultures obtained from fatal cases of erysipelas. He also points out that much larger quantities can be borne when injected subcutaneously than when injected directly into a vascular tumour, the difference being due in all probability to the more rapid absorption in the latter instance. Coley recommends that a very small dose should be used at the beginning—one minim of the filtrate, for example, or half a minim of the unfiltered toxins, and that the dose should be gradually increased until the reaction temperature reaches 103° or 104°. Very little benefit has been noticed in cases in which no reaction has been obtained. Usually injections are given daily, aiming to get two or three well-marked reactions during the week, but this must depend upon the general condition of the patient and the rapidity with which recovery sets in. If well borne the treatment has been continued two or three weeks and if at the end of that time no improvement has taken place it has been discontinued. In some of the successful cases it has been kept up for three or four months, occasional intervals of a few days' rest having been allowed. In several instances, in spite of the reaction and depressing effects, the patients have steadily improved in general condition and have gained markedly in weight.

In the summer of 1895 Dr. Coley, of whose kindness I cannot speak too highly, sent me over some fluid prepared by him and took the trouble to write to me on several occasions a long account of the results at which he had arrived. Since then I have received several more samples from him and I have used these and also the fluid prepared under similar conditions at the British Institute of Preventive Medicine. I have tried these fluids in ten cases in all, with two deaths. The first case in which I used them died, but undoubtedly at the time the injection was made the case was not a suitable one. The patient was a man over seventy years of age with an enormous and very vascular sarcoma of the femur whom I saw in consultation in the country. His condition was very feeble and during the month that elapsed before the fluid could be procured he became much worse. The first injection was not followed by any conspicuous result. The second, two days later, caused a rigor which was followed by such prostration that the patient never rallied. The tumour was a very vascular one, pulsating freely, and the injection on the second occasion in all probability entered directly into a vein. Under such conditions there is no doubt it would be better to inject the fluid into some other part of the body and not into the tumour unless the patient has already become habituated so that some degree of tolerance is established. In the second fatal case the patient died from acute pyæmia under conditions curiously like those of a case recorded by Mr. Marmaduke Sheild.[2] In both cases the fluid was carefully tested by a thoroughly competent observer (in mine by Dr. Bullock) and proved to be absolutely sterile. In both instances another patient who was being injected from the same bottle at the same time and even on the same day experienced nothing more than the ordinary reaction. In both full precautions were taken to sterilise the syringe. In Mr. Sheild's case there was some sloughing of the growth; in mine there was some necrosis of bone with suppuration. In Mr. Sheild's the secondary deposits were proved to be due to a staphylococcus and not to a streptococcus; in mine, unfortunately, no examination of the micro-organism in the secondary deposits was made, but it was proved that there were no organisms in the fluid injected, so that they must have come from somewhere else. The explanation is, I think, fairly clear. In both cases the wounds were full of pyogenic organisms, probably in both staphylococci. It is well known that micro-organisms that are comparatively harmless either from the conditions under which they have been living or from the smallness of their number may become intensely dangerous if they are associated with or aided by the presence of other organisms or the injection of other toxins. Animals, for example, that normally are unaffected by the tetanus bacillus lose their immunity if the bacillus prodigiosus or its toxins are injected at the same time; and I have no doubt that this was the case in my patient. The staphylococci were there, inert or almost inert. The injections of the toxins, either by increasing their virulence or by diminishing the resistance of the tissues or by both changed the condition of things and pyæmia followed. The natural deduction is that strict asepsis is absolutely essential, and that there is danger of pyæmia (which in both instances was of a very rapid type) if injections are made in cases in which a sloughing or a suppurating wound is already present. Of the eight remaining cases, one was a carcinoma of the breast and axilla which shewed no change. A second was a lympho-sarcoma of the groin in a young man who after one or two injections declined further treatment. A third was a similar growth in the neck in a man sixty-five years of age, which was not affected in the least, although the toxins were injected in considerable doses. Two improved slightly and in three the tumours disappeared. The following are very briefly the chief particulars of these five cases.

CASE 1.—A man, twenty-eight years of age, was admitted into the London Hospital in November, 1895, with a tumour in the groin which had been noticed for four weeks. The right iliac fossa was occupied by a

[2] Brit. Med. Jour., January, 1897.

firm swelling, fixed, not fluctuating, reaching to within an inch of the middle line, and extending deeply on the inner surface of the pubes. It lifted up the iliac vessels and was rather tender on pressure. There were four enlarged glands over it. The skin was not red or fixed and did not pit on pressure. Injections were begun in December, and the dose was steadily increased from half a minum up to eight minims. Rigors occurred on several occasions, but in the most capricious manner. Treatment was left off at the end of February, 1876. The patient's weight increased from 9st. 12lb. to 10st. 5lb. The tumour at first increased in size and the skin over it became red and tender. Its outline became vague and ill-defined. In the middle of January it was noticed that it was certainly smaller. Then it increased again simultaneously with the occurrence of several rigors. After this it diminished in size until in March there was very little of it to be felt.

CASE 2.—A man, fifty-eight years of age, admitted in November, 1896, had a tumour in the flank, which had been first noticed one month before. There was a large irregular swelling of firm consistence, not connected with the skin or the abdominal muscles, occupying the left flank. It appeared to be fixed and reached from under the false ribs down into the iliac fossa. In front it came nearly to the middle line, pushing the colon before it. The tumour increased rapidly in size while the patient was in the hospital. Injections were commenced in December, beginning with half a minim, and were continued until the end of January, 1897, with the effect of causing occasional rigors. The tumour continued to increase until at last it pressed upon the colon to such an extent that obstruction seemed imminent. At one time it appeared to become acutely inflamed. Then it slowly diminished in size and shrank until it could scarcely be felt. The patient was discharged in March in a much better condition than when he came in. These two patients (Cases 1 and 2) were shown at the Medical Society in November, 1897. In each there was still a certain amount of resistance over the seat of the swelling, but there was no tumour and they were both in perfect health.

CASE 3.—A man, aged thirty-eight years of age, was admitted in October, 1895, suffering from a tumour of the hip. Illness had commenced four months before with severe pain down the course of the sciatic nerve. This disappeared after a time, but returned worse than ever after injudicious manipulation. The upper end of the thigh was occupied by an irregular swelling that filled up the space between the iliac spine and the trochanter, and moved with the limb. The iliac glands were enlarged. The limb itself was inverted, adducted, and apparently shortened. There had been a recent attack of phlebitis making the swelling and œdema worse. Injections were commenced in October and increased rapidly up to nine minims. This was followed by a rigor. Another rigor occurred a few days later after the same dose; and then, after several injections of the same amount without effect a third, although on the last occasion the dose had been reduced to five minims. After this the treatment was suspended, as the patient complained of general weakness and prostration. The swelling of the hip diminished, slowly at first, more rapidly afterwards. The glands disappeared. The movements of the hip became more free and the inversion and adduction were scarcely perceptible. Two months after his discharge I heard accidentally that an abscess had formed and had burst; but the patient was able to get about well. A year later there was no recurrence.

CASE 4.—A married woman, twenty-nine years of age, was admitted into the London Hospital on Oct. 7th, 1896, suffering from a tumour of the right temple. Six years before a swelling had been noted over the root of the right upper canine tooth. This gradually increased in size until the cheek became much distended by the growth. The right superior maxilla had been removed at the London Homœopathic Hospital on Dec. 31st, 1894. The tumour on microscopic examination proved to be a mixed round and small spindle-celled sarcoma. Three months before admission the patient noticed a swelling in the right temporal region. This had gradually increased in size and become the seat of shooting pains. The right cheek had fallen in and the line of the scar left by the previous operation was plainly visible. The external angular process of the frontal bone on the right side was replaced by a rounded swelling about 1½ in. in diameter, rendering the upper and outer part of the bony margin of the orbit indefinite in outline. Behind the swelling shaded off gradually. Below it reached to, and was apparently connected with, the zygoma. The consistence was very firm and uniform. There was no fluctuation. Injections were commenced on Oct. 9th with fluid obtained from the British Institute of Preventive Medicine. They were made into the arm and were continued almost daily, the dose rising from half a minim to twelve minims. Sometimes there was slight reaction, the temperature rising to 101° F.; but there was no rigor or headache and the tumour continued steadily to increase in size. On Nov. 7th three minims of some fluid kindly sent over by Dr. Coley were injected into the tumour. The temperature rose to 101°; the feet felt cold and the patient vomited. The next day after an injection of five minims there was a distinct rigor in the course of an hour with headache, vomiting, and pain in the back. The injections were continued daily until the dose reached eight minims, each injection being followed by a rigor. On Nov. 15th it was noted that the tumour had definitely altered in shape. The margin of the orbit could be felt. The eyebrow was no longer raised up over the tumour; but, on the other hand, over the zygoma, where the injections were made, the swelling was greater than it was before but softer and semi-fluctuating. On the following day, as the patient strongly objected to the injections into the tumour, nine minims were injected into the arm without result. The next day as the lower eyelid was œdematous the patient declared her conviction that the swelling was increasing, refused further treatment, and left the hospital. The subsequent history as sent to me by Mr. Gordon Brown, of Finsbury-circus, is worth recording. Mr. Gordon Brown writes that after the patient left the hospital the tumour increased in size, affecting the malar bone, causing considerable swelling in the zygomatic fossa, and leading to exophthalmos. There was intense pain in the head. The eyeball protruded and sloughed away. In June she became pregnant and the head symptoms got better. In November the tumour had diminished in size very greatly, but there was a recurrence in the left tibia just below the head of the bone and the inguinal glands were enlarged. In December, 1897, when Mr. Gordon Brown very kindly sent the patient to see me, the sarcoma at the outer angle of the orbit had disappeared completely. There was a deep hollow in the temporal fossa. The eyeball was gone and the orbit empty and the margins of the bones were quite distinct. The left leg was very much swollen and there was evidently a large tumour in the upper part of the tibia. This case is too complicated and involved to be of much use as evidence one way or the other. That the original fluid tried did no good is certain. It is equally certain that very rapid change ensued in the tumour after the fluid sent over by Dr. Coley was injected. This, however, when it was injected, as the former was, into the arm, did not seem of any avail; but it was only tried twice under these conditions. Whether the subsequent disappearance of the tumour, after it had become so swollen (perhaps from the inflammatory changes induced in it by the injections) as to cause sloughing of the eyeball, is to be laid to the credit of the toxins or of the pregnancy or of both cannot be said. In either case whichever was the cause it was not sufficient to prevent a recurrence making its appearance in another locality.

CASE 5.—This was the case of a man, sixty-four years of age, suffering from a fibro-sarcoma of the back. It had begun to grow sixteen years before, and had been removed on three occasions. The latest period of immunity was, as usual, much the shortest. The tumour itself was very irregular in shape, adherent to the skin and the fascia beneath, firm in consistence and of about the size of the palm of the hand. Around were a number of smaller nodules. Injections were made into it three times a week for more than a month. Each injection was followed by a certain amount of reaction, but it was never very intense, although other cases in which the same fluid was used reacted on several occasions very severely. This may have been due to the density of the tumour, for it was almost as firm and as elastic as cartilage. There was a definite effect, but it was not sufficient. The tumour altered in size and shape. Portions of it became flatter, some disappeared entirely. But taking it as a whole it did not decrease in size. At one period it looked as if it were going to diminish rapidly, but the change was only of a temporary character. After five or six weeks the injections were abandoned.

Of these five cases, therefore, three were apparently cured; in one the original tumour disappeared, though the fact of pregnancy occurring at the same time must not be forgotten, and in another there was only a temporary diminution affecting one portion. It is true that in the three instances

in which the tumours disappeared there was no microscopic examination. I am unable to prove that they were sarcomata. All I can say of them is that they were diagnosed as such by others independently of myself, and that if they were not sarcomata it is impossible to say what they could have been. They were certainly not gummata or tuberculous deposits, and equally certainly they were not the product of any infective or pyogenic organisms. Had such been present the result of injecting such powerful toxins would undoubtedly have been the intensification of their action, not its abolition.

The cases that have been reported by Dr. Coley, who has been working at this subject for many years, are very much more numerous and more important. In the *American Journal of the Medical Sciences* for September, 1896, Dr. Coley has published an account of ninety cases of sarcoma which have been treated by him. In thirteen of these the tumours entirely disappeared, and in nine of these thirteen there has been no recurrence, although in one case four years have elapsed, in two cases over three years, and in three cases more than two years. Thirty-three of the patients altogether improved; forty-five, exactly one-half, showed no change, and three died. All these cases, with one exception, were verified and the diagnosis confirmed by microscopic examination, carried out by thoroughly competent and independent observers. They were all inoperable and many of them had been given up as absolutely hopeless.

Dr. Coley has been very much more successful with spindle-celled sarcomata than with any others. Out of fourteen cases five disappeared entirely under his treatment; two disappeared completely for a while, and all the rest improved. Round-celled sarcomata are much less fortunate. Only two were cured out of fifty cases; and although sixteen improved the treatment failed completely in no less than thirty-one. The numbers of the other varieties of sarcomata were too small to justify any definite conclusions. The melanotic sarcomata, of which there were seven in all, were failures, only two showing any improvement. This is a little singular when it is remembered that out of the comparatively small number of cases in which sarcomata disappeared after an accidental attack of erysipelas, no less than two were melanotic.

There have not been many opportunities for ascertaining the character of the changes that are produced in sarcomata by attacks of erysipelas or the injection of toxins. When there is an ulcer or a fungating sore inflammation and sloughing appear to be the rule. In one or two instances the whole tumour has been thrown off in this way. On the other hand, with an unbroken surface sloughing is the exception. The skin becomes red and tense; at first the swelling increases in size, then it becomes softer, so that it may even fluctuate; the colour fades away; the skin becomes loose and falls into folds and wrinkles, and in a little while the whole mass flattens down and disappears. If the normal tissues have been destroyed a hollow may be left in place of a prominence. In one or two instances an incision has been made and several ounces of a yellowish white puriform fluid have been evacuated. The difference seems to depend upon whether pyogenic organisms are present or can gain access through some accidental abrasion. If they are present the tumour sloughs; if they are not, it undergoes a process which for rapidity and thoroughness can only be compared with acute yellow atrophy of the liver.

So far as I am aware there is no record of any case of sarcoma treated by the mixed toxins in which a thorough microscopic examination of the tumour was made during the process of absorption. In Mr. Sheild's case it is merely stated that the change produced in the tumour seemed to be due to inflammatory action in a soft neoplasm and that the growth in one part was necrotic with some purulent infiltration of the muscles underneath. The only definite description that I can find is in the accounts of three cases, one of sarcoma and two of carcinoma, in which the tumours were in process of disappearing during an attack of erysipelas when it proved fatal. The streptococcus of erysipelas of course was present, whereas it would not be if the toxins only were used; but making allowance for this it seems probable that the essential tissue changes would be the same whether the toxins were injected or produced on the spot. One of these was a round-celled sarcoma of the neck recorded by Busch. At the post-mortem examination it was found that the structure of the tumour had been reduced to a framework of connective tissue containing a large amount of yellowish fluid in its meshes. The sarcoma cells had undergone fatty degeneration and formed a yellowish-white emulsion containing numberless fat granules. By injecting water into it the growth could be filled out again to its former size. Here and there around the outskirts portions of the growth that were still unaffected allowed its character and the nature of the changes it was undergoing at the time of death to be ascertained with certainty. Very much the same appearance making allowance for the difference in structure was presented in the two cases of carcinoma. In Neelsen's case it is recorded that the contents of the alveoli had undergone complete fatty degeneration. The alveoli themselves were in many places dilated into cysts or were filled merely with débris. In places the old empty alveoli were crushed together by the pressure of newer growth. In Janicke's case more attention was paid to the invasion of the streptococci which had penetrated in columns between the cell nests and had surrounded them. Whether they had actually penetrated into the cells could not be ascertained. The carcinomatous cells did not show any definite change. In places they were paler and less distinct as if undergoing coagulation necrosis. Nowhere was there any sign of inflammation. Neisser, who made the examination, came to the conclusion that the carcinoma nests corresponding to the invading micrococci were destroyed by the direct action of the organisms without any inflammatory process, but that the destruction was only partial. Fatty degeneration was also found by Spronck in the case of tumours removed from dogs while under treatment with erysipelas toxin and on several occasions on which tumours have been incised under similar conditions large quantities of a yellowish-white fluid with numberless fatty granules suspended in it have been evacuated.

It must be acknowledged that the results obtained by other observers vary a good deal. Some have failed altogether. Many have not succeeded in obtaining any positive result, good or bad. Friedrich, for example, after trying the toxins on nineteen cases, came to the conclusion that they had no specific effect of any kind and that the changes the tumours sometimes undergo are merely the expression of the cumulative action of a number of injurious influences working together. Of the nineteen cases, however, that he records four only were sarcomata and two lympho-sarcomata. The rest were carcinomata and are therefore outside the present inquiry. Moreover, though the streptococci were taken from many different cases, it is by no means certain that the growths were sufficiently virulent. None of the cases from which the cultures were taken had proved fatal. In most instances no attempt was made at intensifying the action of the toxins. And as a natural consequence when the unmixed toxins of the streptococcus were injected very little reaction followed. Spronck, again, using erysipelas toxins alone, experimented on twenty-five cases without success. But it cannot be said that the injection had no effect upon the tumours. Eight only of the twenty-five were sarcomata. In one of these a large growth disappeared and in some of the others there was a distinct improvement, though it was only of a temporary character. In some experiments performed on dogs who were suffering from tumours very definite changes followed. Répin also, although he used an intensely virulent preparation of the erysipelas toxins and made injections twice a day so as to get the maximum effect in the shortest time, met with very qualified success. Only one case out of four showed any result. In that one, a recurring sarcoma of the shoulder, a large portion of the tumour sloughed away, but the patient became so ill and lost so much weight that the treatment was abandoned. It is noteworthy that in many of the cases recorded by Coley and in two at least of my own the patients improved in weight and strength during the treatment in spite of the frequent attacks of fever. Three cases published by Butlin were also failures. In one, part of the tumour sloughed, but the rest continued to grow; in another the fluid (which in this instance had not been prepared by Dr. Coley) may have hastened death; and in the third, a case of lympho-sarcoma or of lympho-adenoma that had already disappeared once under the administration of arsenic, it had no effect at all.

In America the evidence is very conflicting. Many successful cases have been published by other surgeons. Dr. Johnson, of New York, for instance, has recorded a case of spindle-celled sarcoma of the pharynx of enormous size which disappeared completely and although upwards of three years have passed shows no sign of recurrence. Dr. Mynter has published another in which there was a huge

sarcoma of the abdomen. But naturally in most of these sufficient time has not elapsed to show whether there will or will not be recurrence of the disease. On the other hand Senn failed. In not one of the nine cases in which he tried the toxins was there any improvement. But, as Coley remarks, the cases were unhappily selected. Three were carcinomata; one was a melanotic sarcoma, a tumour of notoriously malignant type; and two others were periosteal sarcomata, a class which Coley admits are unusually refractory.

The most sweeping condemnation—a condemnation that impelled the editor of the journal of the American Medical Association to reverse his opinion absolutely within the space of a few months—came from a committee of three surgeons appointed by the New York Surgical Society. Dr. Stimson, Dr. Gerster, and Dr. Curtis found: (1) that the danger to the patient from this treatment is great; (2) moreover, that the alleged successes are so few and so doubtful in character that the most that can be fairly alleged for the treatment by toxins is that it may offer a very slight chance of amelioration; (3) that valuable time has often been lost in operable cases by postponing operation for the sake of giving the method of treatment a trial; and finally and most important, (4) that if the method is to be resorted to at all it should be confined to the absolutely inoperable cases. The point, of course, is in the second finding. No one, so far as I am aware, has ever advocated or practised this method of treatment for cases which were suitable for operation. And with regard to this finding I would only remark that Dr. Coley's cases (to take his alone) have been thoroughly verified and authenticated and that they are neither few nor doubtful. It is no small achievement to have saved the lives of nine patients who had been given up as hopeless and dying by every other surgeon who had seen them; and one single positive result is worth any amount of negations. With such conflicting evidence it is not an easy matter to form a definite opinion. There are, however, certain conclusions which, though some of them may have to be modified later, appear to me to be justified at present.

1. It cannot be denied that there is a considerable number of cases in which sarcomata that had been given up as hopeless often after repeated operations have absolutely and entirely disappeared under this method of treatment. There is no other method of treatment (except infection with the streptococci of erysipelas itself) of which this can be said.

2. Some of these cases have remained free from recurrence for upwards of three years, the period which, in the case of excision of the breast for scirrhus, is regarded by many operators as justifying the use of the term cured.

3. Several of the cases in which sarcomata have disappeared after an attack of erysipelas have remained free from recurrence for seven years and upwards.

4. The fact that there may be a few, a very few, cases recorded in which sarcomata have disappeared, either spontaneously or after such diseases as acute specific fevers, has nothing to do with these conclusions. (The statement that sarcomata do occasionally disappear is repeated with great regularity, but well-authenticated cases in which this has taken place verified in the way in which Dr. Coley's have been verified are very difficult to find).

5. Nor are these conclusions in any way invalidated by the fact that injections of the mixed toxins are sometimes followed by the disappearance of other growths such as lupus, keloid, syphilitic deposits, carcinomata, &c. It may make the disappearance of sarcomata more difficult to understand but it in no way disproves it.

6. The proportion of cases of sarcomata that are cured by the injection of the mixed toxins depends among other things upon the histological character of the growths. Spindle-celled sarcomata are by far the most successful. This suggests the conclusion that the mixed toxins have a selective action even if it is not specific.

7. The disappearance of sarcomata is not due to inflammation but to an intensely rapid form of fatty degeneration comparable only to that which affects the hepatic cells in acute yellow atrophy of the liver. Inflammation and sloughing, when they do occur, are septic complications.

8. Degeneration and absorption may occur whether the toxins are injected directly into the tumour or into some distant part of the body. In the former case, however, the effect is more rapid and the constitutional symptoms more severe.

9. The method is attended by a considerable degree of danger. It should therefore only be adopted in those cases for which there is no other remedy. The chief risk appears to be from collapse and pyæmia. There must always be danger of the latter if there is a suppurating or a sloughing sore. It may be argued that patients whose lives are immediately threatened by a malignant growth will never be cured by any remedy that does not involve some degree of risk.

10. The toxins are of no use unless the cultures are taken from a virulent case of erysipelas or are made virulent by passing the streptococcus through rabbits.

11. The bacillus prodigiosus in spite of theoretical objections has the effect of immensely increasing the reaction.

12. The effect is most striking in the case of rapidly growing sarcomata. Slowly growing ones appear to have much more resistance. Probably this merely means that masses of embryonic cells with little organisation give way to injurious influences more readily than those that are more closely knit together.

13. Patients often gain in weight and strength while under treatment.

14. Treatment should be continued until the whole growth has vanished or has become so small that it can be removed.

15. If there is a recrudescence of the disease it does not follow that the toxins will be as efficacious the second time as they were the first. Whether this is the result of tolerance having been established cannot be said.

16. Recurrence in other parts of the body may take place after many years.

17. The severity of the reaction is very variable. Probably this depends upon the rapidity with which the injection is absorbed rather than upon any cumulative action it may possess.

Coley suggests that injections of the mixed toxins may be useful in preventing recurrence after sarcomata have been removed by operation. Incidentally it may be mentioned that injections of the streptococcus of erysipelas apparently never cause suppuration. If, therefore, the streptococcus of erysipelas is identical with the streptococcus pyogenes the name of the latter had better be changed.

Bibliography.—Bruns: Beiträge zur Klinische Chirurgie, 1888 p. 443. Biedert: Deutsche Medicinische Zeitschrift, 1886, No. 4. Wyeth: Quoted by Coley. Coley: Annals of Surgery, September, 1891; American Journal of the Medical Sciences, May, 1893, July, 1894, and September, 1896; Johns Hopkins Hospital Bulletin, August, 1896. Kleeblatt: Münchener Medicinische Wochenschrift, Feb. 18th, 1890. Fehleisen: Zur Aetiologie der Erysipels. Lassar: Deutsche Medicinische Wochenschrift, No. 29, July, 1891. Sheild: Brit. Med. Jour., Jan., 1897. Busch: Berliner Klinische Wochenschrift, 1868, No. 12, and 1866, No. 23. Neelsen: Centralblatt für Chirurgie, 1884, p. 729. Janicke: Centralblatt für Chirurgie, 1884, p. 401. Spronck: Annales de l'Institut Pasteur, 1892, p. 883. Friedrich Langenbeck's Archiv, Band 50, p. 709; Proceedings of the Twenty-fourth Congress of German Surgeons, 1895. Répin: Revue de Chirurgie, 1895, p. 465. Butlin: Clinical Journal, Jan. 29th, 1896. Johnson: New York Medical Record, Nov. 17th, 1894. Mynter: New York Medical Record, Feb. 9th, 1895. Senn: Journal of the American Medical Association, July 27th, 1895.

Wimpole-street, W.

ON THE USE OF MASSAGE IN THE TREATMENT OF RECENT FRACTURES.

BY WILLIAM H. BENNETT, F.R.C.S. ENG.,

SURGEON TO ST. GEORGE'S HOSPITAL; MEMBER OF THE COURT OF EXAMINERS, ROYAL COLLEGE OF SURGEONS OF ENGLAND; EXAMINER IN SURGERY AT THE UNIVERSITY OF CAMBRIDGE.

THE use of massage in the treatment of recent fractures, although it may have been adopted by a small number of individual surgeons, does not appear to have received the general attention in this country which in my opinion it deserves. No apology is therefore offered for the following communication as, so far as my experience goes, the results in suitable cases seem likely to be better than those obtainable by any other method with which I am acquainted. In my trial of the treatment I have had the advantage of the help of Dr. Hamel, who has had much experience in the matter. He was good enough to come to St. George's Hospital to personally manage some of the earlier cases and instructed my dressers as to the details of the method.

The reason that this treatment has not been generally

received with more favour here seems to be mainly the traditional belief in the necessity for complete rest and immobility in the affected limb which does not at first sight appear consistent with the employment of massage. The fact that massage does not necessarily entail material movement between the fractured bone ends although the muscles about them may be freely moved appears to have been overlooked by those who either disapprove of, or are sceptical about, the method. Massage in any ordinary case of recent fracture, if properly applied, can be used without producing any movement between the bone ends worth mentioning, and in the most difficult cases the amount of movement in the fracture itself is not sufficient to delay union, for union I believe occurs, *cæteris paribus*, more rapidly in cases treated by massage than in those treated by conventional plans. Indeed, it is permissible to raise the question whether under any circumstances slight movement between the fragments in cases of fracture, provided that the position of the parts is good, is not rather conducive to union than the reverse when it is remembered that in many cases of fracture in which the union is slow, consolidation rapidly takes place when some mobility between the bone ends is brought about either by encouraging the use of the limb by the patient or by passive movements.

I presume the experience of the majority of surgeons coincides with mine in showing that the most troublesome part of the management of very many cases of fracture, especially those of the lower part of the leg, is connected with the stiffness, pain, and difficulty of movement which follow upon the discontinuance of the splints when the fracture is treated in the usual way, rather than with any initial trouble in "setting" the fracture or in its early progress. Although it is true that in the majority of cases the pain, stiffness, &c., can be overcome by perseverance on the part of the patient, by prolonged massage, or by forcible breaking down under an anæsthetic, it is an undeniable fact that in not a few instances the tendons and soft parts become so firmly matted together that the stiffness and pain are practically unmanageable and lead to permanent crippling, which will vary in degree according to the circumstances of the case. The usual method of treating fracture by prolonged retention of the affected limb in splints which allow of practically no movement of the soft parts about the fracture directly tends to this matting process and leads to a large percentage of the unsatisfactory results which follow upon fractures, especially in the vicinity of joints. The stiffness and pain which follow in many of these cases is often erroneously attributed to adhesions in or about the joint only or to some slight faulty position of the fractured bone. In reality the defective movement is, I believe, practically always due to matting of the soft parts immediately about the line of fracture. How firm this matting of the parts may be and the degree of stiffness which may thus be caused is fairly shown by the state of affairs found in the dissection of a fracture of both bones in the leg three inches above the ankle, the injury, judging from the condition of the union, having been received about two months previously. The fractured parts were firmly united and the position of the fragments, although not perfect, was fairly good. No movement beyond a little "springing" in the ankle joint could be produced by violence such as is ordinarily used in the "breaking down" of joints. The ankle-joint was healthy and the stiffness was entirely due to the state of the soft parts about the fracture. The anterior tibial muscle at the point of junction with its tendon was firmly adherent to the bone; the muscular structures at the posterior aspect of the fracture had apparently been slightly torn and were with their tendons intimately adherent to the bone by cicatricial tissue, in which the posterior tibial nerve was involved and could only be liberated by careful dissection; the nerve showed no sign of having been damaged at the time of the accident. All movement in the ankle-joint beyond that allowed by the mere elasticity of the parts appeared to be checked by the adhesion of the tissues mentioned. When the adherent structures had been loosened by dissection the ankle-joint could be freely bent with comparative ease. The implication of the posterior tibial nerve is interesting, for it affords a ready explanation of the acute nerve pain caused by attempts at movement of the ankle-joint in walking after some cases of fracture about the lower part of the leg.

In the treatment of cases of recent fracture by massage this matting of the soft parts is impossible; the tendons are prevented from becoming adherent, the muscles do not waste, the joints are kept supple, and nerves cannot become implicated in adhesions. It therefore follows that upon the patient resuming the use of the damaged limb the joints are as freely moveable as if no fracture had occurred, the muscles are well developed and comparatively strong, and the neuralgic pain so often met with under ordinary circumstances is wanting. Indeed, with the exception of any shortening or deformity which may be the immediate outcome of the facture the limb is, in ordinary uncomplicated cases, practically as sound and healthy as that on the opposite side. This condition of things, when compared with the state of the limb upon the removal of the splints in a case treated by the usual method of immobility, is in itself, I venture to submit, sufficient to entitle the massage method to a fair claim as a routine treatment in a large number of recent fractures. There are, however, other reasons in favour of its adoption. Nothing tries the endurance of the patient and the resources of the surgeon more than the distressing muscular spasm which so often occurs in the early stage of cases of fracture and which, in spite of anæsthetics and minor operations (tenotomy, &c.), is in some instances practically uncontrollable until it "wears itself out" in the course of some days. In massage there is it seems at hand a means by which this spasm may be frequently, if not always, controlled in a way which to those who have not seen the effect is remarkable. A good example of this is the following. A very feeble old woman was sent to St. George's Hospital with a comminuted fracture about the middle of the right femur. The injury had been received two days previously, the fracture was greatly displaced, and the limb was tense, swollen, and discoloured. It was quite clear from the condition of the limb that any immediate attempt at extension or the application of splints was out of the question; she was therefore placed in bed with the limb arranged as comfortably as was practicable between pillows. The muscular spasm both before and after her admission into the hospital was extreme and in spite of narcotics prevented any appreciable amount of sleep. I saw the patient the day following her admission; she was suffering greatly and every few minutes shrieked as the muscular spasm occurred. In spite of the threatening appearance of the limb generally and in spite of the slightest attempt at extension setting up intense pain from spasm, massage over the fracture was commenced at once. At the end of ten minutes the spasms were much less and in a quarter of an hour had subsided altogether, so much so that the old woman fell into a sound sleep whilst the rubbing was being done—the first sleep she had had for three days. After this she constantly begged for the rubbing as it stopped her spasms, which rapidly disappeared altogether and allowed the limb to be manipulated freely. All swelling excepting immediately about the fracture soon subsided, rapid union followed, and in three weeks, the massage having been regularly applied, she was strong enough to allow of her "lying outside her bed," no splint of any kind having been used.

In another case in the same ward in which there was a fracture of both bones of the leg acute muscular spasm, in spite of anæsthetics and every possible care, entirely prevented my keeping the fragments in anything like reasonable position. Any cutting operation for the purpose of wiring the fracture was for sufficient reason negatived, so I tried the effect of massage with the result of entirely allaying the spasms, thus making it possible without any difficulty to retain the fracture in the best position allowed by the circumstances of the case, which was quite impossible before the massage was used.

This soothing effect, although remarkable, seems to be the rule and patients otherwise restless constantly fall asleep whilst the treatment is in actual progress. The effect upon the bony union appears to be to hasten the process of consolidation, probably I suppose in consequence of the better circulation which is produced in the part with the resulting improvement in nutrition. This is especially the case in subjects getting on in years.

The technique of the treatment is very simple and is easily acquired by any person of ordinary intelligence possessing a light hand and fair sense of touch, gentleness being the keynote to successful manipulations. The method comprises three stages. 1. Gentle rubbing in an upward direction over the fracture with a view to soothing the patient, the relief of muscular spasm, and the rapid absorption of extravasated blood, &c. 2. Passive movements of the joints above and below the fracture (thus effecting "internal massage"), by

which all matting of the soft parts at the seat of fracture and about the joints is prevented. 3. The development of wasted muscles by the ordinary massage processes. The details of the method used in my cases will be best understood by describing an ordinary straightforward case of fracture of both bones of the leg three or four inches above the ankle in which there is little or no difficulty in keeping the bones in fair position. Reduction of any displacement of the fragments having been accomplished the limb is placed upon a back-splint reaching above the knee with a foot-piece to which the foot is fixed by bandage in the usual way, care being taken to include no more of the leg above the ankle than is absolutely necessary; a second bandage or piece of webbing fixes the limb to the splint just below or at the knee. As much as possible of the area of the fracture should be left exposed. Rubbing by a gentle, smoothing movement upwards from the ankle is now made by the flat of the hand grasping as much of the circumference of the limb as is possible. However tender the parts may at first seem no pain will be caused, but, on the contrary, a soothing effect is rapidly produced. Ten minutes of this rubbing is sufficient at the first application. If at the end of this time the patient is fairly comfortable the toes are taken altogether between the operator's thumb and fingers and very gently extended upon the metatarsal bones two or three times. At the end of the "sitting" side splints or sandbags are used in addition to the back splint for the better steadying of the fracture. This proceeding is repeated daily, or oftener if practicable, for from four to seven days, the time occupied by each massage being gradually increased to twenty minutes or more (the side splints being removed before the commencement of each rubbing and afterwards replaced). At the end of this time if the fracture is in good condition and the fragments show no sign of altering their position the bandages are removed from the foot and ankle leaving the limb exposed and lying on the splint. The smooth rubbing already described is now applied over the foot, ankle, and leg for about ten minutes and then, without removing the limb from the splint, the operator gently flexes the ankle two or three times or more on the leg with one hand whilst he steadies the fracture with the other, the bandages being afterwards replaced as before. This is repeated daily for three or four days, after which the limb at each sitting is gently lifted off the splint on to a flat pillow; the rubbing is now more thoroughly done and the passive movements of the ankle more freely carried out, the fracture being of course still supported with one hand of the operator; at the end of each sitting passive movement of the knee is now added. The passive movement of the ankle must, of course, be commenced very gently as some slight pain may be caused by "the internal massage" resulting from the working of the tendons and muscles in immediate relation with the fracture itself. At the end of another week the union is usually firm enough to allow of all the manipulations of ordinary massage and the patient may be encouraged to move the ankle spontaneously as freely as possible, the fracture being fixed with some form of short splint. The complete massage should be continued until the union has fairly consolidated; the period necessarily varies in different cases, but in a simple uncomplicated case of fracture of both bones of the leg a month is the approximate time. For the first fortnight the patient is better confined to bed; after that he may lie on the sofa and generally be allowed to get about with crutches, in which case a moulded poroplastic or leather splint, made so that it can be easily removed for the massage sittings, may be desirable. The above description must be taken to apply merely to a straightforward case without complications; it is sufficient to indicate the main points connected with the technique of the treatment.

In some cases in which the lesion is very near to or actually involves the joint the treatment is obviously more difficult and requires great care. In Pott's fracture, for example, it is necessary to uncover the ankle from the commencement for the application of the primary rubbing and the passive movement—a most important point. The management of this particular fracture has to be conducted with much discretion. A minor but much appreciated benefit afforded by the method of treatment is the comfort which the patient derives merely from frequent temporary release from the restraint imposed by the continued use of splints. The degree of this comfort can only be fully realised by those who have to submit to the cramping and immobility of the limb necessarily entailed by the treatment by splints commonly adopted. The objections to the method which may be raised are, so far as I know, of no moment surgically, but it is idle to deny that certain difficulties connected with its employment exist which must, I fear, prevent its becoming general in the ordinary sense of the word. This, however, does not of course minimise the value of the treatment when the means for its application are available. At first sight the use of passive motion by which the soft parts above the fracture are prevented from becoming adherent may appear objectionable since in a large number of cases these parts must necessarily be more or less torn. The early movement of the torn structures may seem likely to produce weakness. In practice no defect of this nature appears to be brought about if ordinary care be taken in the application of the treatment; and if it be granted for a moment that some weakness in the more severe cases may possibly arise it would certainly be far less detrimental to the patient than the crippling which ensues upon any extensive matting of the torn structures.

An objection which may arise in connexion with hospital cases is the necessity, when fractures are treated by the massage plan, for a longer residence in hospital than would be necessary in many cases which might be put up immediately in some kind of splint (silicate, poroplastic, leather, &c.) which would enable the patient to be discharged at once or very soon after the accident. This objection would carry more weight with some surgeons than others. Personally it does not much concern me as I have never looked with very great favour upon the immediate use of cases of plaster-of-Paris, silicate of potash, and the like, in any but cases of the simplest kind, as I have seen enough of the disadvantages of the plan to lead me to reject it, as a rule, in the severer cases. Apart, however, from the difference in the custom of individual surgeons in this connexion there must under any circumstances be a considerable number of fractures, at all events of the lower limbs, which require detention in hospital for some time. It is safe to say that almost all of these cases can be treated by the massage method either in its entirety or with some modification. In private practice the objection now under discussion may or may not be considered of importance. In my opinion the advantage derived from the method when properly applied outweighs the disadvantage of the necessity for retaining a patient in hospital, &c., for ten days or a fortnight longer than would be necessary if the fracture were treated immediately by some form of immoveable splint, the results of which are by no means always satisfactory and are sometimes disastrous. The difficulties connected with the application of the treatment which must necessarily more or less interfere with its general adoption are principally two. (1) The large amount of time required of the practitioner in the earlier stages of the cases during which the treatment must be carried out under his immediate supervision unless a particularly skilled person is available (in some of the severer cases the treatment at first, at all events, could hardly be managed by any one but the practitioner himself); and (2) the difficulty of finding in all places a person capable of safely undertaking the manipulations in the later stages, which would generally absorb more time than any busy practitioner could afford as a rule to give. Other minor difficulties, such as expense, might arise, but are not of sufficient interest to require comment here.

In conclusion I hope I need hardly say that I have no desire to overstate what I regard as the advantages obtainable by massage in recent fractures. My main object is to induce those surgeons who have as yet no experience of the method and who have the means at hand for its employment to give it a trial. It is, as I have said, a method from which I have obtained what I believe to be sufficiently good results to make it worthy of adoption in the generality of cases in which the surroundings of the patient and the circumstances of the practitioner render it feasible, and I shall be surprised if those who have already had experience of it or are now induced to try it do not agree with me in this opinion.

Chesterfield-street, Mayfair, W.

THE Newport Workmen's Infirmary Fund in 1897 amounted to £922, being an increase of £106 on the amount received in 1896.

EXMOUTH DISPENSARY.—The annual meeting of the Exmouth Dispensary was held on Jan. 26th. The balance-sheet showed the income to be £239 and the expenditure £140. There were 944 cases treated during 1897.

A NOTE ON THE ELIMINATION OF BACTERIAL TOXINS BY THE SKIN.

BY DAVID WALSH, M.D. EDIN.,
PHYSICIAN TO THE WESTERN SKIN HOSPITAL, LONDON, W.

IN THE LANCET of Jan. 15th a paper by Dr. Salter on the Elimination of Bacterial Toxins by Means of the Skin has a special bearing on work first published by me at the meeting of the Birmingham Association in 1890.[1] It was then suggested that excretory dermatitis might result from various blood-borne irritants such as drugs, specific chemical poisons (e.g., of gout and uræmia), and poisons due to micro-organisms or to their products such as ptomaines. It is presumably something akin to this theory of "excretory irritation" that Dr. Salter has in mind when he writes: "Amongst the functions performed by the skin that of elimination of poisons has long been surmised." With regard to that remark I venture to say that the stage of "surmise" has been passed for some considerable time. In 1893[2] I pointed out that iodine had often been found in the skin lesions of iodism. Urea and bile can sometimes be seen on the skin surface in uræmia and jaundice respectively. Hence in 1897[3] I stated the conclusion, "That proof is afforded by means of chemical and biological tests of the frequent passage of some of the internal irritants from the blood into the excretions and into serous and synovial effusions." The general law which I have laid down in my own mind is that any blood-borne irritant capable of inflaming the skin may inflame any other organ of excretion and *vice versâ*. Admittedly my chain of absolute evidence was and still is incomplete: the remarkable researches of Arloing[4] as to the septic properties of healthy sweat has partly supplied the missing proofs. It seems more than likely that Dr. Salter has filled still another gap by showing that tuberculin is present in the sweat of phthisical patients. In the book already mentioned[5] the passage occurs: "The night-sweats of phthisis are probably due to some toxic bacillary product which acts either on the sweat centres directly or on the glands of the skin." The fact that a scarlatiniform rash often follows the injection of tuberculin I have dwelt upon again and again since 1890 and compared it with the analogous antitoxin rash.[6] I have never heard, however, that a profuse sweat follows the hypodermic injection of tuberculin in the human subject—a fact which Dr. Salter may find worthy of investigation in his further researches. Anyway, the present conclusions of that gentleman appear to have a direct bearing upon the theory of excretory irritation.

As to the rheumatic sweats and rashes briefly alluded to by Dr. Salter he can hardly maintain that there the elimination of poisonous substances by the skin has been simply "surmised." On the contrary, the chemical composition of the rheumatic sweat is one of the few scientific facts we really possess with regard to that most interesting and etiologically obscure disease. The poison of rheumatism does not appear to do any great amount of damage to the excretory epithelium. As I pointed out in 1890 it seemingly expends most of its violence upon mesoblastic tissues. At the same time I wrote: "The action of all excretory organs is largely interchangeable, a fact taken advantage of every day in practical therapeutics, when one organ is relieved by increasing the action of another, as in the familiar examples of purging, sweating, and diuresis."[7] Also as a conclusion, "That while excretion affords the key to a certain number of skin inflammations it also accounts for the success of many well-established methods of treatment which aim at shifting the channels of elimination. At the same time it affords a rational basis for further therapeutic measures." It is not a little gratifying to find Dr. Salter writing seven years later as to the elimination of tuberculin: "The above experimental evidence seems to me to have a practical bearing upon therapeutics inasmuch as it furnishes a rational basis for the old empirical method of treatment—viz., that of 'sweating a fever.' The artificial encouragement of the sweating no doubt assists in the elimination of the toxin by way of the skin, leaving less behind to poison the tissues."

In conclusion it may be as well to add that I do not for a single moment suggest any doubt as to the absolute originality of Dr. Salter's valuable research. So far from that I welcome his contribution as most telling confirmatory evidence in favour of my own views. At the same time I have ventured to make the above comments, as it is desirable for all who undertake a work of this importance to have at least a general acquaintance with the drift of previous writings upon the subject.

Pump-court, Temple, E.C.

[1] Medical Press and Circular, Oct. 22nd, 1890.
[2] British Medical Association, Newcastle.
[3] Excretory Irritation, p. 48, Baillière, Tindall, and Cox.
[4] THE LANCET, Sept. 4th, 1897, p. 613.
[5] Excretory Irritation, p. 39.
[6] Note on Antitoxin Rash, British Journal of Dermatology, February, 1895, p. 59.
[7] Loc. cit.

ALKALISED SERUM AS A CULTURE MEDIUM FOR THE BACTERIAL DIAGNOSIS OF DIPHTHERIA.

BY L. COBBETT, M.A., M.B. CANTAB., F.R.C.S. ENG.

ALKALISED serum has this obvious advantage over ordinary serum as a solid culture medium that it remains transparent when sterilised at a high temperature. The medium was first described by Professor Lorrain Smith in 1894 and since that time I have used it almost constantly in the Pathological Laboratory at Cambridge and have found it very useful for the diagnosis of diphtheria and for the cultivation of the Klebs-Löffler bacillus.

PREPARATION OF ALKALISED OX SERUM.

The following method of making the medium differs in a few minor details from that originally described by Professor Lorrain Smith. Ox blood is obtained at the slaughter-house without antiseptic or other special precautions. It is not necessary even that it should be clear or free from hæmoglobin. A small quantity of the latter or even of corpuscles in the serum causes the medium made from it to be of a darker colour, but it does not interfere with its transparency and seems even to improve it slightly as a soil for the cultivation of the bacillus diphtheriæ. To every 100 c.c. of the serum 2 grammes of glucose and 1·75 c.c. of a 10 per cent. solution of NaOH are added. The mixture is then put into tubes and solidified and sterilised in the autoclave. It is necessary to pay careful attention to the sterilisation in order to prevent the formation of bubbles in the medium and the consequent destruction of its surface. For this purpose a relatively higher pressure than that exerted by saturated steam alone must be used. In order to effect this end the exit tap of the autoclave must be closed before the air which it contains has been expelled and thus the pressure of the heated air is added to that of the steam. The medium is of a rich brown colour and should be perfectly transparent by transmitted light. It varies in appearance according to the quantity of NaOH used. Some samples of serum seem to require more alkali than others; this is notably the case when the serum has been allowed to remain some hours in a warm room after the addition of glucose. The manner in which the bacillus diphtheriæ grows upon it has been already described.[1] The colonies are somewhat characteristic, they are discrete, flat, grey, or almost colourless, and after several days' growth their margins usually become indented and radially fissured, so that the whole colony comes to have somewhat the shape of a daisy, an appearance which is also seen in old colonies on dry agar and on gelatin. It must be mentioned that in some cases the colonies do not assume this shape, but remain round and have a raised centre and border separated by a circular depression. It is always possible, however, to detect radial striation with the aid of a lens. They stick very tightly to the surface of the medium and cause it to become opalescent, a change which is to be attributed to the formation of acid. These characteristics serve after a few days' growth to distinguish the bacillus diphtheriæ from the so-called diphtheria bacillus of Hoffmann, the colonies of which organism on this medium are brilliantly white or yellowish-white, round, and dome shaped; they do not adhere to the surface and they cause when in pure culture no opalescence in the medium. Thus it is often easy to separate

[1] Cobbett and Phillips: Journal of Pathology and Bacteriology.

the true diphtheria bacillus and the bacillus of Hoffman from the same culture tube. The bacillus which resembles the true diphtheria bacillus in form and in its power of forming acid out of sugar, and indeed in every other point except that it is devoid of virulence, is not to be distinguished from it in its growth on this medium. The medium is relatively favourable to the bacillus diphtheriæ and with its aid it is exceedingly easy to obtain pure cultures. On the other hand it has sometimes been found to be unfavourable even for this organism. Under these circumstances it improves when kept for a few weeks. By other means also it has been found that this difficulty can be to some extent overcome — viz., by raising the temperature of sterilisation.[2] The addition of peptone to the medium has been tried and found to offer no advantage. The beneficial action of the high temperature, therefore, cannot be attributed to partial peptonisation of the medium. It seems more reasonable to attribute it to the dissociation of ammonium sulphide which is undoubtedly formed. Sterilisation in the steam steriliser has been tried, but has been found to yield an unsatisfactory medium. When sterilised at a temperature of 120° C. the medium is undoubtedly a valuable one, but the bacillus diphtheriæ even then grows upon it with provoking slowness. Old laboratory cultures accustomed to other soils grow more slowly than do bacilli fresh from the human throat, but even these in most cases do not grow sufficiently rapidly to allow of a probable diagnosis being made within twenty-four hours. On this account I have sought to obtain a similar but more favourable medium from horse serum and have been so far successful that with it I have been sometimes able to sow the medium in the morning and return a diagnosis of diphtheria on the same day.

PREPARATION OF ALKALISED HORSE SERUM.

Horse serum is treated in the following way. To every 100 c.c. 2 grammes of glucose and from 1·25 to 1·2 c.c. of a 10 per cent. solution of NaOH are added; the medium is then poured into tubes and Petri's dishes and sterilised at a temperature of 90° C. on two successive days in a chamber surrounded with a jacket containing boiling water. Exposure to steam at atmospheric pressure results in the formation of bubbles and the destruction of the medium. Sterilisation in the autoclave has not been successful. The medium prepared from horse serum is as bright and transparent and almost as light in colour as gelatin. It offers a very favourable soil to the diphtheria bacillus. Staphylococci and streptococci grow upon it, but the common saprophytes seem to grow with difficulty and no difficulty has hitherto occurred from the presence of liquefying organisms. The diphtheria bacillus grows so rapidly that colonies may often be seen after from six to eight hours' incubation. And it is exceedingly easy to obtain pure cultures with its aid. In some respects it is inferior to the alkalised ox serum, for the colonies of the diphtheria bacillus are not so characteristic as on that medium. They show no tendency to become daisy-shaped and they are neither so grey nor so flat. The formation of acid, however, causes the medium to become opalescent and in pure cultures this distinguishes the bacillus of Hoffmann, while for the purpose of distinguishing between these two organisms the ox serum is to be preferred. Yet for the ordinary purposes of diagnosis the alkalised horse serum is far better because the growth of the bacillus diphtheria is so much more rapid upon it.

METHOD OF EMPLOYING THE MEDIUM FOR DIPHTHERIA DIAGNOSIS.

A swab rubbed over the suspected throat is rubbed over the surface of the serum contained in a Petri's dish. If it has been sent from a distance and has become dry it is previously moistened with broth. The dish is then incubated at 37° C. and examined on the following day. If the bacillus diphtheria is present colonies of the size of a small pin's head (or smaller if numerous) will be apparent. A coverslip impression specimen is made from these, stained and mounted in Löffler's methylene blue. The advantage of the impression method is obvious, for it allows a large number of colonies to be successively examined in little more than the time usually spent over one, thus increasing the certainty of a negative diagnosis. The impression method was, I believe, first applied to this purpose by Dr. Klein, of St. Bartholomew's Hospital. The alkalised horse serum has worked so well in the Wellcome Physiological Laboratory, London, where it was first made and is now in daily use for the bacterial diagnosis of diphtheria, that I venture to hope that other workers in the same field will make trial of it.

Cambridge.

[2] When the autoclave is heated and the air which it contains is not allowed to escape the internal pressure is due to that exerted by the air together with that exerted by the saturated steam. Under these circumstances the temperature scale usually engraved on the pressure guage of this instrument is misleading, the temperature being in fact many degrees lower than that indicated. It is necessary, therefore, to use a thermometer. Before this was done the serum was often insufficiently heated. The best results have been obtained by exposing the medium to a temperature of 120° C. for twenty minutes.

INFLUENZA AND IMMUNITY.

BY H. G. TURNEY, M.A., M.D. OXON., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO ST. THOMAS'S HOSPITAL.

INFLUENZA is now so hackneyed a topic for medical writers that mere mention of it has become almost a punishable offence. The only excuses for the present paper are that the point with which it proposes to deal though it possesses both importance and interest has received comparatively little notice and still awaits a final answer, while a considerable recrudescence of the disease has made all things connected with it of importance to the medical practitioner. The question of one attack of the disease protecting from or predisposing to other attacks is one which has been settled in the bodies of many of us, but such an experience remains to a great extent individual and at all events has not been generally expressed in numerical terms. The observations which are here recorded, based principally upon facts obtained in the epidemic of 1891, have hitherto been kept back in the hope that the question of immunity would have been conclusively decided by the statistical method applied on a large scale. The clinical material at the disposal of so many country practitioners, with constituencies remaining from one epidemic to another practically the same, undoubtedly forms a far firmer basis for such a research than the shifting population of a hospital out-patient room, and if such material were made the subject of collective investigation the result would be finally decisive. The public health authorities, too, possess extensive facilities for prosecuting such an inquiry, though on somewhat different lines and as regards local rather than personal immunity. Of these facilities Dr. Parsons has availed himself to the fullest extent in his classical monographs on influenza. Still these opportunities have their limits, for no public records can follow out the life history of each individual with regard to disease. This can be done only by the medical practitioner and upon him lies the burden of proof.

So far as can be ascertained by limited personal inquiries, the views of medical men on this topic of influenzal immunity are widely divergent; while some maintain that one attack is a fairly efficient protection, others as strongly assert that so far from protecting it renders the subject still more susceptible. It seems incredible that after a series of five wide-spread epidemics occurring within the space of four years a problem of such personal interest to many should still remain unsolved.

The question of immunity may conveniently be considered (1) as regards time and place and (2) as it affects individuals. Space will not permit discussion of the first of these questions and, moreover, little need be said except by way of reference to Dr. Parsons'[1] work on the subject. His conclusions, with a summary of the evidence on which they are based, may, however, be mentioned here in his own words:—"In many counties an inverse proportion is perceptible between the death-rates from influenza in 1891-1892, those counties which suffered severely in the former year having escaped lightly in the latter year and *vice versâ*." "But," he continues, "certain counties, however, seem prone to a higher death-rate than their neighbours in each year. A severe epidemic of influenza appears to confer upon a locality a certain degree of protection against another."[2] Before entering into the question of immunity as it affects individuals it may be well to define the conditions under which that term will be used. Probably in many microbic diseases immunity is a necessary condition of the recovery of the

[1] Dr. H. Franklin Parsons: On the Distribution of the Mortality from Influenza in England and Wales during Recent Years; THE LANCET, May 28th, 1894. Also Local Government Board Additional Report on Influenza, p. 53 et seq.

[2] Loc. cit.

patient, but the completeness and duration of that immunity may vary within the widest limits in different affections. At one end of the scale stand such maladies as scarlet fever and small-pox where the protection conferred lasts in the enormous majority of cases for a lifetime. Of the other extreme diphtheria is perhaps the best example. That diphtheria does confer immunity may, in the light of recent reseach, be taken as proved. But most clinical observers will agree that this protection lasts a comparatively short time—a month or six weeks at the most. This view is confirmed by Behring[3] as regards his antitoxin. He estimates the duration of this artificial immunity at from six to ten weeks according to the dose injected, after which time it gradually disappears. It is interesting to note that during this period of resistance the antitoxin is being excreted by the urine. Abel,[4] again, in experimenting with the blood serum of convalescent diphtheria patients finds that guinea-pigs are protected for about a month. It is quite possible, therefore, that a patient may be protected for a period only long enough to allow his recovery from the disease, and in such a case immunity will be clinically non-existent. It is to the presence or absence of clinical immunity that attention will be directed in the following remarks. The degree of immunity may be estimated (1) by experiment, (2) by the tendency to relapse, and (3) by the liability to subsequent attacks.

1. *By experiment.*—Pfeiffer[5] appears to be the only observer who has published any definite results which may throw light on this point. He expresses his conclusions as follows: "When I repeated the same injection (pure cultures of influenza bacilli) fourteen days later the three monkeys showed much slighter reaction. There appeared to be indications of a form of immunity such as must be supposed to exist in men who have had influenza once." Klein,[6] however, in repeating Pfeiffer's inoculations was unable to satisfactorily confirm his results, the large majority of the experiments proving negative. The question from this point of view must still therefore be regarded as unsettled.

2 *and* 3. *By relapses and subsequent attacks.*—Strictly speaking both relapses and subsequent attacks are alike evidence of the liability of the organism to fresh invasion by the disease, the relapse being so far the more convincing of the two on account of the shorter interval between the first and second injections. On other grounds, however, of these two forms of evidence that based on the tendency to relapse is by far the less satisfactory. Influenza owes much of its importance to its peculiar richness in complications and between a complication and a relapse the line is often indeed difficult to draw. This source of error can hardly be eliminated even by the best observers and must go far to vitiate any statistics bearing on that particular question. And even if this possible fallacy be ignored the common occurrence of relapses in typhoid fever—surely one of the most self-protective of diseases—will raise fresh doubts as to the validity of the argument.

Considering the difficulty of defining a relapse in influenza it is hardly surprising that estimates of its frequency should vary within the widest limits. Symes Thompson[7] believes that "relapses have occurred in many of the cases, especially when due care has not been taken to provide against exposure during convalescence." Professor Drasche[8] calls attention to the strikingly frequent occurrence of relapses in the epidemic at Vienna. In the epidemic at Philadelphia "relapses were not infrequent."[9] In 6680 cases there were 762 relapses or 11 per cent." In Germany, according to the official records,[10] "relapses varied from 10 to 40 per cent. in certain places, but as a rule were infrequent." Leyden and Guttmann[11] give the results of inquiries addressed to 2849 medical men as to the frequency of relapses: 410 had seen none, 1785 had seen them rarely, and 654 had seen them often. Parsons[12] states that "relapses are of frequent occurrence; they occurred in 9·2 of the cases at the Morningside Asylum, Edinburgh." From personal experience I would be inclined to agree with the lower rather than with the higher of these various estimates—that is, provided the term relapse be used in its strictest sense. A repetition of the original symptoms before convalescence was established and in the absence of complications certainly did not occur in more than ten per cent. of the cases under observation. In these cases, too, treated almost without exception with salicylate of soda, the recrudescence appeared to be sometimes due to a premature abandonment of the drug. On the whole, the conclusion may fairly be drawn from the above records that the relapse rate in influenza is not less than ten per cent.

The occurrence of multiple attacks.—Here again there is some discrepancy of opinion. Parkes,[13] speaking of course of an earlier outbreak, says that "while persons seldom have an attack in the same epidemic (though even this may occur) an attack in one epidemic does not protect against a subsequent epidemic, indeed, it has been supposed rather to render the body more liable." Parsons,[14] adduces a certain amount of evidence, principally in the form of opinions of medical officers of health, tending to show that one attack of influenza confers a certain though slight degree of protection. Althaus,[15] a sturdy believer in the protecting powers of the disease, writing in 1891, describes the infection of two different classes of people in the first and second epidemics respectively (1889-90, and 1891), and expresses a belief that further outbreaks are unlikely to occur on a similar scale from lack of material. The German Public Health Department[16] also comes to the conclusion that influenza confers a certain power of resistance on the individual.

In the epidemic of May–June, 1891—that is, the second of the series—I treated in the casualty department at St. Thomas's Hospital 1324 patients suffering from influenza. In every case a somewhat careful investigation was made into the history of any previous attacks. Only those histories were accepted which appeared above reasonable doubt and in which the previous attack had occurred during the first epidemic. Out of these 1324 patients 89 had suffered in the first epidemic, a percentage of 6·7. Among patients who attended during the first week the percentage of multiple attacks was 13·4; among those of the last week no previous attacks had occurred. And this predominance of recurrent attacks during the early part of the period as compared with the later was apparent throughout. A percentage of 10·8 during the first fortnight fell during the last to 4·9; and one of 9·0 during the first month dropped in the last to 3·7. The record was made without any previous idea as to the effect of the figures, and indeed it was not till long after the list was completed that a more careful consideration showed their significance.

The inference that individuals who have once suffered from influenza so far from enjoying any protection are more prone than others to further attacks seems irresistible; at all events they apparently are the first to succumb when exposed to fresh infection. It should be remembered that the interval between these two epidemics was at the most but four months. What is the meaning of this apparently increased susceptibility to attack? Several interpretations of it are possible. The first and most probable is that post-influenzal debility, local or general, lasts longer than post-influenzal immunity, and so the patient is left more exposed to further attacks. Another explanation is found in the possibility that a certain proportion of the population is specially susceptible to influenza and that this excessive susceptibility is more than sufficient to counter-balance any increased power of resistance that may have been conferred by a previous infection. Some support is given to this latter suggestion by the extraordinary proclivity to the disease that certain otherwise robust individuals appear to possess; of this special proclivity many examples could be given.

Professor Baümler,[17] in his description of the influenza epidemic in Freiburg in 1893–1894, discussing the question of acquired immunity, remarks that "most of my colleagues will answer the question—Does influenza protect?—in the negative, on the ground of their personal experience; many were attacked this time just as they were four years ago." Having at the time of the first epidemic held a resident appointment in a large hospital I acted on this suggestion and made inquiries into the subsequent history of those who had been my colleagues on that occasion. Nine out of

[3] Deutsche Medicinsche Wochenschrift, No. 46, pp. 865, 866.
[4] Ibid., No. 43, pp. 899 et seq.
[5] Zeitschrift für Hygiene, Band xii., 1893, p. 381.
[6] Local Government Board Additional Report, pp. 126 et seq.
[7] Influenza, p. 406; also pp. 358, 371.
[8] Influenza, Wien, 1890.
[9] Pepper's System of Medicine, vol. i., p. 192.
[10] Arbeit aus dem Kaiserlichen Gesundheitsamte, Band ix., 1894, pp. 342-344.
[11] Die Influenza-Epidemie, 1889–1890, p. 45.
[12] Local Government Board Report, p. 68.
[13] Reynolds's System of Medicine, vol. i., p. 35.
[14] Op. cit.
[15] On Influenza, p. 312.
[16] Op. cit.
[17] Die Influenza Epidemie, 1893-4, in Freiburg, pp. 9, 10.

twelve were available. Of these nine, two had escaped infection in the first epidemic; of these two, one has never since contracted the disease, though repeatedly exposed to danger; the other within the last year has had two attacks within the space of a few months. Three of the nine have had only one attack, two have had two, two have suffered thrice, and one has fallen victim no less than nine times. It is interesting to note the complete immunity of one, and compare it with that of his colleague who passed untouched through three epidemics and then was attacked by both the fourth and fifth. The numbers are of course too small to form a basis for serious argument, but so far as they go they certainly point to an absence of any prolonged protective influence and appear to confirm the experiences of medical victims at Freiburg.

My conclusions are (1) that the period of protection afforded by an attack of influenza is so short as to be clinically negligeable, and (2) that there is some evidence to show that there exists either a special susceptibility to the disease or an acquired predisposition to it derived from previous injections with the same virus.

Portland-place, W.

SUCCESSFUL CASE OF PORRO'S OPERATION IN A DWARF.

BY SMALLWOOD SAVAGE, M.A., M.B. OXON., F.R.C.S. ENG.

A WOMAN, aged twenty-three and a half years, was sent by Dr. Baddeley, who in view of an approaching full-term pregnancy had considered there would be a good deal of difficulty in delivery. The patient's father and mother were healthy and well formed. She was the second of a family of five children all of whom, with this one exception, were of average height and merit no further mention. The patient when born was considered unusually small and "when one year old was no bigger than her newly-born sister." As an infant she was very weakly and had not sufficient strength to suck properly. She was brought up by the bottle with sago and rusks but never had any of the patent foods. She cut her teeth naturally; as to walking she did not begin until she was three years old and while at school she was much behind other girls of her own age. There was no history of fits.

On examination the patient's height was found to be only 4 ft. 3 in. and her weight 7 st. 2 lb. Her face was small but it presented an old appearance. There was no alteration in the shape of the bones of her skull or limbs, nor were there any enlarged ends of long bones. The patient had not a prominent forehead. Her teeth, however, were carious, especially in the upper jaw, for there she wore a plate. The pelvis was small; of the external measurements the intercristal was only 9 in., the interspinous only 8 in., and the external conjugate 7½ in. There were no signs of congenital syphilis. Mentally the patient seemed below the average. The usual signs of pregnancy were present, the uterus extending up to 1½ in. of the sternum. The fœtal head, which was of average size, was felt entirely above the pelvic brim and it was impossible to make it engage it. On auscultation both souffle and fœtal heart were heard. By the vagina the pubic arch was found to be very considerably contracted. The diagonal conjugate diameter was not made out. The pelvis generally was a good type of the "small round pelvis." In view of the size of the child's head compared with that of the pelvis it was considered that the chances of a living child being born naturally were very remote. After due consideration of all the facts it was decided to advise delivery by Porro's operation or Cæsarean section, the former being chosen.

On Nov. 27th, 1897, the patient was operated on in my father's private hospital, Mr. J. Sandison Crabbe administering the anæsthetic and my father assisting me at the operation. The incision was made five inches long in the middle line, one third of it being above and two thirds below the umbilicus. On the uterus being exposed an attempt was made to encircle it with an elastic tourniquet; this was impracticable, so the abdominal incision was slightly enlarged above and the uterus brought out above the surface of the abdomen. The elastic tourniquet was now applied below the head and both appendages and there temporarily fixed by forceps. Three large flat sponges were placed in the abdomen covering the remaining viscera. The placental site was felt for but could not be made out. The uterus was incised for about five inches along the anterior surface, but as this was found to be over the placenta another incision was made to the left. The membranes were ruptured and the child was quickly extracted by its neck. Before rupturing the membranes the uterus was strongly anteverted so as to allow of the uterine contents being delivered well away from the peritoneal cavity and between the mother's thighs. The clamp was next applied with a protected transfixing pin and the uterus was amputated. The abdomen was stitched up in the ordinary way, care being taken that the stump was firmly fixed in the lower angle of the wound. It might be noted that not a drop of blood or amniotic fluid entered the abdominal cavity. The child breathed well and seemed to be well formed and of average size. The patient made an uninterrupted recovery without any untoward symptom. The clamp came away on the fifteenth day and she was discharged on Jan. 5th, 1898.

Birmingham.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

A CASE OF REMOVAL OF A PIECE OF STEEL STAYBUSK FROM THE ABDOMINAL CAVITY; RECOVERY.

(Under the care of Mr. JOHN H. MORGAN.)

ABDOMINAL operations for the removal of foreign bodies which have been swallowed are decidedly rare. Gastrotomy is the operation which is usually performed and if carried out with antiseptic precautions it is accompanied by a comparatively low mortality, for Mr. Durham[1] collected a series of ten cases and of them only one died. A case recorded by Mr. Mayo Robson[2] was remarkable for the very large number of foreign bodies successfully removed from the stomach of a child. In Mr. Morgan's operation, however, the foreign body had left the stomach and was found lying in the peritoneal cavity, though fortunately adhesions must have shut it off completely. A point of some interest is that the Roentgen rays gave no indication of the presence of any metallic body in the region where the piece of steel was found; a possible explanation is that the staybusk was so placed that its long axis was almost perpendicular to the sensitive plate; the result would be that a large piece of steel would give only a small image which might easily pass unnoticed.

A healthy, well-grown man, twenty-four years of age, was admitted into Charing-cross Hospital under the care of Dr. Bruce with the following story. In June, 1897, after an attack of rheumatism and owing to stress of business and home worries he had an attack of acute mania lasting three weeks, during which with an idea of suicide he swallowed the following articles: thirteen pennies, thirteen halfpennies, and ten other coins including a two-shilling-piece, a gold watch chain, a key chain, and a brass watch chain, a set of studs and a pair of sleeve-links, and half an ounce of dressmaker's pins. From the gold watch chain he removed the bar lest it should stick in his gullet. After this he suffered some pain and felt a weight in his stomach which altered in position with his movements. On June 25th he found a staybusk (a piece of steel used to strengthen stays) and having picked off with his teeth the cotton which covered it he swallowed this also. He remembers hearing various articles pass into the pan of the closet, but he was unable to see what they were. In the following August he complained of some pain in his epigastric region and vomited a small

[1] Erichsen's Science and Art of Surgery, tenth edition, vol. i., p. 847.
[2] Boston Medical and Surgical Journal, Feb. 7th, 1895.

quantity of dark-green fluid. He was treated by a medical man for indigestion and there had been no vomiting since.

He came under Dr. Bruce's care on Oct. 12th, 1897, and there was found a swelling about two and a half inches in diameter situate above and to the left of the umbilicus. The skin over it was slightly reddened and it derived a pulsation from the aorta. This pulsation disappeared when the patient was placed on his hands and knees. The heart and urine were normal. On the 20th he was examined by means of the Roentgen rays, but nothing could be made out. On the 22nd the swelling was very tender, the skin over it was slightly œdematous, and fluctuation was detected. The following day after consultation the patient was anæsthetised and Mr. Morgan made an incision in a vertical line directly over the swelling. On cutting through the skin some few ounces of fœtid pus escaped. The abscess cavity was scraped and scrubbed with antiseptic swabs. A finger was then introduced and passed through a circular aperture with thickened edges into the cavity of the peritoneum. The small intestines were felt below, the stomach and edge of the liver above, and the pulsating aorta. At the bottom of this cavity was felt the tip of a sharp, hard foreign body, lying loose and freely movable; the axis of the body appeared to pass upwards and to the right. It was carefully seized with a long pair of œsophageal forceps and extracted. It proved to be a piece of steel stay-busk rather over four inches long, perfectly clean and untarnished. When found it lay at some depth from the surface, but its end must have pressed against the abdominal wall and thus have caused the irritation which resulted in a superficial abscess. As to the nature of the cavity in which it lay it is difficult to speculate. It contained no fluid, but was probably shut off by adhesions from the general peritoneal cavity. The area was washed out with warm boracic lotion and the wound was sewn up, a drainage tube being inserted and the usual antiseptic dressings applied. The temperature rose to 101° F. the same evening, but fell to normal next day. The patient was fed by nutrient enemata for five days, but on the sixth day he was given milk and eggs. Nothing interfered with his subsequent progress and in less than a month he left the hospital in perfect health.

Remarks by Mr. MORGAN.—This adds another to the long list of articles swallowed by would-be suicides and its subsequent history is as fortunate as it is remarkable. That so large a substance should penetrate the stomach and remain in the abdomen without causing disturbance and then set up a superficial abscess in the abdominal wall is a sequel that could hardly be anticipated by the most hopeful surgeon. That such an abscess could be opened and the foreign body extracted without the slightest sign of inflammation or of disturbance of the peritoneum is a tribute to modern antiseptic surgery.

MANCHESTER ROYAL INFIRMARY.

A CASE OF SEVER COMPOUND FRACTURE OF THE RADIUS AND ULNA WITH AVULSION OF THE FLEXOR MUSCLES IN THE FOREARM; REPLACEMENT OF THE MUSCLES; RECOVERY.

(Under the care of Mr. J. H. RAY, late resident surgical officer to the infirmary.)

THE following case is well worth recording as an excellent example of what can be done by conservative surgery at the present time. Both bones were broken and many muscles and an important nerve were torn, yet by energetic treatment an almost perfect functional result was obtained. It is not long ago that a limb injured to this extent would have been amputated without any serious idea presenting itself that it might be possible to retain it. It is probable that one of the most important points which contributed to the recovery was the fact that the ulnar and radial arteries were uninjured.

A man, twenty-one and a half years old, was admitted into the Manchester Royal Infirmary on Sept. 13th, 1897, with a compound fracture of both bones of the right forearm, and a mass of muscles and tendons hanging out of a transverse wound of the flexor surface of the limb, due to the pulley and strap of a driving shaft, round which his forearm was carried. The bones were broken rather below the middle of the forearm and the proximal part of the radius projected about half an inch from a lacerated transverse wound of the limb. The wound was four and a half inches long and hanging from it were the flexor carpi radialis, palmaris longus, and part of the flexor sublimis digitorum, all torn away about two inches from their origin at the internal condyle of the humerus, but preserving their distal attachments. The median nerve was torn across above and was coiled up near the wound of the skin. Both the radial and ulnar arteries were intact. Mr. Ray decided to attempt to save the limb and made an incision on the front of the forearm from a point about two inches below the elbow to the lacerated wound mentioned above, and also for a short distance towards the wrist. He found that the pronator radii teres was partially divided, as well as the deep flexor muscles of the forearm, whilst the median nerve was divided about an inch after passing between the heads of the pronator radii teres. About three-quarters of an inch of the radius having been removed on the proximal side, Mr. Ray sutured the median nerve, pronator radii teres, and the deep flexors, and he replaced the muscles that had been torn from the region of the elbow—viz., part of the flexor sublimis digitorum, the palmaris longus, and the flexor carpi radialis. The nerve was sutured with fine silk and the muscles with medium-sized catgut. The aponeurotic investment of the front of the forearm was next brought together with a continuous catgut suture and silkworm-gut was used for the skin. Dry dressings were applied and the limb (the elbow flexed and the forearm semi-pronated) was placed on an internal angular splint, and was not looked at for ten days, when everything had healed with the exception of the meeting of the skin incisions with the lacerated wound. The patient remained in hospital for nearly four weeks and was an out-patient for some time longer. Firm union has taken place in both the radius and ulna and he can flex and extend the limb through fully 90° at the elbow, and has some power of pronation and supination. The replaced muscles are again active and flexion of the digits is easily performed, whilst sensation over the median nerve area is normal.

Remarks by Mr. RAY.—The above case is a good example of the application of conservative surgery in the treatment of a severely injured limb. I am indebted to Mr. Hardie for kind permission to publish the case.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Umbilical Hernia.—Immunisation against Streptococci.—Aortic Incompetence.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 1st, the President, Dr. J. F. PAYNE, being in the chair.

Mr. W. G. SPENCER showed a specimen of Strangulated Umbilical Hernia from an infant. The infant passed meconium in the usual way after birth, but afterwards there was no action of the bowels and symptoms of obstruction developed and on the fourth day a swelling was noticed at the umbilicus. The child was admitted to the hospital when five days old. There was general distension of the abdomen and a tumour the size of a hen's egg presented at the umbilicus. At the apex of the tumour was the dried stump of the umbilical cord and the skin in the neighbourhood was inflamed and sloughing. An incision was made at the site of the cord and a large amount of fæcal material and flatus escaped, relieving the child for the time. Fæces continued to escape from the artificial anus thus formed, but the child died from exhaustion ten days later. Post mortem the hernia was found to contain a loop of ileum with the cæcum and it was the wall of the ileum which had sloughed. The "spur" on the opposite side formed a considerable projection.—Mr. TARGETT thought that the hernia could not have been due to developmental malformation, but must be looked on as acquired through some cause during intra-uterine life.—Mr. D'ARCY POWER thought that a distinction should be drawn between umbilical hernia proper, or exomphalos, and ventral hernia occurring at the umbilicus. Mr. Spencer's specimen belonged to the latter class. He referred to specimens of each class which he had brought before the society on a previous occasion. He thought that in this case the gangrene had begun from within as the skin below the stump was comparatively healthy.—Dr. CHARLEWOOD TURNER thought that the specimen was one

of prolapse of the cæcum everted through a Meckel's diverticulum. He did not see how a true hernia should show everted mucous membrane. There was a specimen of the condition he suggested in the Museum of the London Hospital.—Mr. SPENCER, in reply, said that he thought from the appearance of the skin during life that the sloughing was due to an extension of septic processes from the stump of the cord.

Mr. BOKENHAM read a paper, illustrated with charts and lantern slides, on the Immunisation of Animals against Streptococcal Infection. In his investigation he employed streptococci derived from various sources. The culture medium was one he had devised of a mixture of fresh veal broth with peptone and salt solution and boiled under pressure for several hours. He also sometimes used an alkali albumin made by acting on blood serum with an alkali. The age of the culture at the time he made the inoculations was never less than three weeks as the results were more constant when the streptococci had ceased to grow. The virulence of the organisms was often increased by passing them through several rabbits. The filtrate from the cultures was highly toxic to rabbits, producing glomerulo-nephritis and hæmorrhages into the mucous membrane of the alimentary canal. Injection of the filtrate into horses or asses caused reaction and rise of temperature with tolerance to subsequent doses of the same. Repeated inoculations were necessary before the serum was found to have much immunising effect. If the serum were taken from an animal too soon after inoculation before the inflammatory reaction had completely subsided there was often local reaction when it was injected into another animal, the inflammation occurring some time after the injection. If, however, it were taken from the animal later it could be injected without any local disturbance. It was doubtful whether there was a true antitoxic action, but a marked increase in phagocytosis could be demonstrated in the peritoneal fluid after its use. He had had many opportunities of observing its use in cases of streptococcus infection in man. There was almost always speedy loss of headache and restlessness, the patient becoming drowsy; the skin became moist instead of harsh and dry. The temperature sometimes rose at first, but then came down and might be kept down by repeated injections. In erysipelas the erythema might actually disappear in twenty-four hours. He began with a dose of 10 c.c. and this often required to be repeated several times.—The PRESIDENT said that the specimens of nephritis shown were remarkably like those seen in scarlatinal cases. He asked whether the serum had been tried in cases of ulcerative endocarditis. He had recently had three cases of this condition under his care in which Dr. Louis Jenner found organisms in the blood, staphylococcus aureus in one, a diplococcus in another, and streptococcus only in a third.—Dr. LAZARUS-BARLOW said that Mr. Bokenham's observation that the blood must not be taken too soon after inoculation agreed with the observations of Charrin and Gley, who found in their researches on the bacillus pyocyaneus that it was necessary to wait seventeen days after inoculation before the toxin had left the animal. There was a delay before these local signs showed themselves and the observations had an important bearing on the question of the incubative period after the inoculation of chemical products, a field almost unexplored. Such an incubation period had been noticed after the ingestion of poisonous articles of food.—Mr. BOKENHAM, in reply, said that the striking resemblance to scarlatinal nephritis had struck him also. He had seen an exactly similar condition in rabbits after the injection of a substance obtained from the spleen of scarlatinal patients. He had tried the serum in two cases of ulcerative endocarditis, in one with only temporary relief, while in the other recovery took place after 150 c.c. had been injected altogether. In animals immunity appeared to be conferred for six weeks or longer.

Dr. NEWTON PITT showed four specimens of Aortic Incompetence without Disease of the Aortic Cusps. All the specimens showed atheroma and dilatation of the aorta, chiefly of the first part, and dilatation and hypertrophy of the left ventricle. This had led to a stretching of the ring supporting the valve and incompetence although the cusps of the valve were perfectly healthy. Dr. Pitt mentioned that the condition had been recognised by the late Dr. Moxon and four other cases were found in the records of Guy's Hospital occurring in four years.

The following card specimens were exhibited:—

Dr. NEWTON PITT: Sarcoma of the Suprarenal Body.

Dr. W. HUNTER: (1) Typhoid Lesion of the Vermiform Appendix; (2) Suprarenal Body from a case of Addison's Disease; (3) Acute Tuberculosis of the Spleen; (4) Diphtheria of the Larynx, &c.; and (5) Gouty Deposit in a Joint.

Dr. HEBB: (1) Adipose Infiltration of the Heart from a case of Ether Poisoning; and (2) Sections of the Spinal Cord from a case of Tumour compressing the Cervical Cord.

Dr. Eden's demonstration of the Age Changes in the Placenta and Fœtal Membranes was postponed till Feb. 15th.

CLINICAL SOCIETY OF LONDON.

Sudden Death in Acute Rheumatism.—Internal Hernia.—Obliterative Arteritis.

A MEETING of this society was held on Jan. 28th, the President, Mr. LANGTON, being in the chair.

Dr. W. P. HERRINGHAM read a paper on a case of Sudden Death in Acute Rheumatism. A girl, aged sixteen years, was admitted to St. Bartholomew's Hospital on Feb. 27th, 1897, on the second day of a first attack of rheumatic fever, with a temperature of 103° F., a pulse of 128, and a respiration-rate of 32. Many joints were inflamed. The heart was not enlarged at the time of admission, the apex beat being within the nipple line, but there was a double apical murmur. She complained much of pain in the umbilical region, for which no cause could there be found. The joint pains quickly ceased under salicylate of soda, but she continued to feel much pain in the epigastric and præcordial regions and became pale and cyanotic. The heart enlarged, the apex beat passing beyond the left nipple, and small râles became audible over the lungs and the fever persisted. Impairment of resonance was found over the left lung and the respiration rose to 64. This state continued until March 11th. During the previous night she had slight hæmoptysis and at 10.30 A.M. a sudden change for the worse occurred and she died in a few minutes. A post-mortem examination showed œdema of both lungs and fatty degeneration of the walls of the left ventricle with much increase of cells in the interstitial connective tissue—acute myocarditis. This acute change in the heart was probably the usual cause of the few cases of sudden death in rheumatic fever. A certain diagnosis appeared impossible; but suspicion should be aroused if along with cyanosis for which there appears no sufficient cause in the lungs there exists considerable pain in the epigastric or præcordial regions.—Dr. MACLAGAN remarked that the best account which they had of the subject dated from as far back as the time of Corvisart, who scheduled these cases as "distinct" and as "latent." The "distinct" cases were those in which there was evidence of direct changes in the heart and the "latent" those in which no such evidence was obtainable. In the latter class of cases almost invariably the symptoms were referable to the nervous system. He referred to a case recorded in one of the earlier volumes of the Transactions of the Royal Medical and Chirurgical Society (1816) by Mr. Stanley of a boy who died with symptoms thought to be due to inflammation within the head. Post mortem nothing was found there, but there was inflammation of the muscular substance of the heart. It was important to recognise the fact that it did occur as a serious complication in rheumatism. The subject had been brought before the society some years ago by Dr. Ord in connexion with pericarditis with and without head symptoms. He believed that the cases in which head symptoms occurred were those in which the pericarditis was complicated by myocarditis. He believed that the inflammation spread from the pericardium to the myocardium but never from the endocardium to the myocardium and he pointed out that endocarditis never spread all over the heart but was limited to certain spots. The changes in the myocardium might, however, occur independently of either one or the other. The treatment followed in this case was ten grains of salicylate every four hours, but he was of opinion that there was no possibility of doing any good with such a dose. He himself never gave salicylate of soda in cases where he suspected the heart, preferring salicine. He recalled the fact that Charteris had stated that the deleterious effects sometimes observed after salicylate of soda were due to its containing an impurity in the shape of creosotic acid. Alluding to Dr. Herringham's remark that death was due to hyperpyrexia, probably the result of the action of the rheumatic poison on the nervous system, he said he failed to see what authority there was for such a view, this complication not being limited to acute rheumatism.—Dr. LEES

said the society was much indebted to Dr. Herringham for the details of the post-mortem examination in his case. He thought that in every case of acute rheumatism a microscopical examination should be made of the cardiac muscle. Unless definite post mortem evidence were obtained the clinical symptoms afforded them very little ground on which to arrive at a diagnosis of the exact nature of the cardiac lesion. There was a condition of acute dilatation of the heart in rheumatic fever to which his attention had been drawn in the course of researches on pericardial disease in children. Careful observation and measurements by himself and Dr. F. J. Poynton had led him to remark acute dilatation of the heart which he attributed at first to the weakening effect of the pericarditis on the cardiac wall, regarding it, in fact, as a myocarditis which had spread inwards. In another case where there was no evidence of peri- or endo carditis, no rub or murmur, the cardiac dulness had gradually increased and subsequently diminished under treatment. This made him believe that there was, apart from pericarditis, a definite enlargement of the heart. The progress of recovery was watched by the aid of tracings made without reference to those taken on the preceding day and a series of such tracings showed that at first there was great dilatation which rapidly diminished to normal under treatment. In one case, that of a young man in whom there was neither rub nor murmur, the cardiac dulness returned to normal and he left the hospital. A short time after he returned with a fresh attack and again the cardiac enlargement was noticed. The symptoms—delirium, pain, dyspnœa, and a tendency to cyanosis—were not in themselves proofs of genuine inflammatory condition of the cardiac substance, but were more probably due to some toxic action of rheumatism. He was disposed to think that the supposed injurious action of the salicylates, though perhaps partly a question of idiosyncrasy, was really an error of appreciation, the depression being really due to the pericarditis.—Dr. GLOVER said the rarity of the lesion in question had led him to look out the notes of a case under his care fifteen years ago. A man, aged fifty years, with chronic bronchitis and emphysema, had been ill ten days with pains in the arms and faintness. On the occasion of Dr. Glover's first seeing him the patient fell back in his chair and died. Post mortem a patch the size of a five-shilling piece was found on the front aspect of the heart of a red or greyish-red colour as if it might have sloughed out. There was a corresponding patch on the opposing surface of the pericardium which at another spot was ecchymosed. There were decolourised clots in the aorta and pulmonary vessels. The lungs were congested and emphysematous.—Dr. ALEXANDER MORISON observed that the initial evidence of cardiac failure in a large number of these cases first manifested itself in the left lung. It was a common experience to find that in fatal cases condensation of tissue was found occasionally at the base of the right lung, but in by far the larger number the œdema was found on the left side. Wilkinson had related several cases of the kind in which he attributed this lesion of the left lung to the pressure of the left auricle.—Sir DYCE DUCKWORTH observed that anyone who had seen much of rheumatic fever must have witnessed cases similar to these. He had learned to recognise such cases and clinically to recognise the approach of such events and to sometimes avert them by treatment. He suggested that enough stress was not laid on the existence of myocarditis and on its being the result of the influence of the rheumatic poison. He had seen pericarditis spread into the myocardium, but he had also certainly seen endocarditis pass bodily into the substance of the heart structure. One of the symptoms that ushered it in was progressive failure of the circulation. He referred to a very similar case brought before the Royal Medical and Chirurgical Society some years ago which had led to much discussion. That patient had been treated in accordance with the then prevailing practice by large doses of alkalies. He thought that salicylate was an agent that required to be carefully watched and in the event of myocarditis supervening it should be discarded or combined with brandy. He himself would prefer under these circumstances to leave it alone altogether, substituting iodide of potassium and quinine. He thought this complication might often be averted by a suitable tonic treatment, though some cases would prove fatal in spite of it.—Dr. HERRINGHAM, in reply, explained that salicylate of soda was only supposed to relieve the pain of rheumatism and he did not use it for any other purpose. Stimulants were also given.

Mr. J. HUTCHINSON, jun., read a paper on a case of Internal Strangulation of the Small Intestine by a Fibrous Ring. He also showed a specimen from the London Hospital College Museum. It displayed the sac of a right inguinal hernia together with a small fibrous ring which had become detached from the neck of the sac and had caused fatal strangulation of a loop of small intestine. The specimen had been taken by Mr. Jeremiah MacCarthy from a man, aged sixty-one years, who had had for a long time a right inguinal hernia. This became strangulated and was reduced by taxis. Symptoms of peritonitis followed and the patient died. Post mortem they found in the left hypochondriac region a loop of intestine about a foot in length, gangrenous and very tightly constricted by a fibrous ring. This was evidently the detached margin of the upper part of the sac. The patient who was the subject of his own paper was a man, aged fifty years, who had had a large inguinal hernia for four years. On Aug. 28th, 1897, he was unable to reduce it and on that day he was seized with abdominal pain, vomiting, &c. He was admitted on Sept. 1st and the hernia, which was not strangulated, was easily reduced. Nothing passed per rectum and enemata only brought away small hard scybala. As on the third day the symptoms were practically unaltered Mr. Hutchinson, jun., opened the abdomen below the umbilicus. There was no sign of peritonitis and the cause of obstruction was quickly found, viz., a loop of small intestine passed through a complete fibrous ring exactly like stout catgut. This ring was quite free from any attachment. It was cut through and there seemed no reason to fear gangrene. The ring measured about an inch in diameter. The bowels were spontaneously open the day after the operation and the patient left the hospital three weeks later wearing a truss on the right side. Mr. Hutchinson, jun., suggested that this rare and interesting form of obstruction only occurred in cases of hernia in which taxis was frequently performed by the patient, which rendered easy the formation and detachment of the ring. It would have been quite impossible to have reached or detected the seat of obstruction through the inguinal canal in either case. These cases, therefore, argued in favour of opening the abdomen in the middle line when the symptoms of obstruction persisted after reduction of a hernia.—The PRESIDENT said these cases were doubtless somewhat rare, though possibly more frequent than was supposed. A similar specimen was to be seen in the Musée Dupuytren (No. 215), which showed a circular band constricting a piece of small intestine, which was found post mortem and was believed to have been originally a fibrous band at the neck of the sac which had become detached by the repeated passage of the intestine. As to treatment, he raised the question whether the surgeon should operate through the inguinal canal, slitting it up, or through the median line. When the site was not quite certain he held that it would be well to make the incision in the middle line in order to make out exactly where the obstruction was situated. He could not agree with Tait's suggestion that strangulated hernia should be relieved by median laparotomy, which was dangerous, especially in obturator herniæ, for if the neck were split from the inner side and the intestine withdrawn should this ever become gangrenous extravasation of the contents into the peritoneal cavity, which would involve great risk to the patient, was sure to occur.

Mr. W. G. SPENCER read a paper on a case of Arteritis Obliterans affecting Three Limbs and exhibited Photographs of the Microscopical Appearance of the Arteries in the Amputated Leg. The case was shown at the clinical meeting on Jan. 14th. He also demonstrated the fibrous thickening of the intima in microscopical sections of the arteries of the leg which had been amputated. Mr. Pearce Gould had described a similar case in 1884 and since then the patient had been under observation so that there was a continuous record for more than ten years. The characteristic feature of Mr. Gould's case was the occurrence of obliterative arteritis in the arm of a young man, which progressed for two years, then became spontaneously arrested, none of the recognised causes of arterial disease being present. Following this there was a return to good health, which has been maintained for a long period. Mr. Spencer's case was a man aged twenty-seven years. Nothing in his previous history, neither syphilis nor any of the other causes of arterial changes, accounted for the disease. The man first suffered from coldness of the left leg and foot during August, September, and October of 1897; this was followed by pain and commencing dry gangrene. The pain increased and the gangrene spread so that amputation through the left thigh became necessary and this was followed by a quick return to good general health. Before

this the right leg had been cold and the femoral artery formed a pulseless cord, whilst a threatening dark spot appeared on the great toe. After the amputation the right leg became warmer and the skin of the right foot desquamated, but no pulsation returned. The vessels of the right arm, from the right subclavian to the radial and ulnar, showed a greatly diminished pulsation. The vessels of the left arm, the temporal arteries, and all the other organs of the patient were normal. In amputating through the left thigh the femoral artery was found to be quite blocked, the femoral vein was patent, only one other bleeding point required a ligature, and there was very little oozing. The change shown in the microscopical sections of the smaller arteries was a fibrous thickening of the intima commencing between the endothelium and the elastic lamina, causing a projection into the lumen and then spreading to involve the elastic lamina and to a less extent the middle coat. The larger arteries showed no alteration in the wall but a firmly laminated adherent clot, the outer laminæ blending with endothelium and the intima within the elastic lamina.—Dr. PARKES WEBER asked whether Mr. Spencer had found in the amputated limb any exudation of round cells. A certain amount of atrophy of the muscle fibres with an increase of the connective tissue would be expected, the blood-supply being to a great extent cut off. This was what Sir Benjamin Brodie had pointed out as having taken place in the heart muscle in cases of coronary obstruction—i.e., that the cramp which preceded gangrene in the muscles of a limb was strictly analogous to the cramp which took place in the heart when there was any cardiac obstruction, although it was not yet settled that angina of any kind was due to cramp of the muscular structure of the heart. In respect of the question of this patient having had syphilis he did not think that what Mr. Spencer had said at all proved his point.—Mr. SPENCER, in reply, said there was a certain amount of small-celled infiltration but no increase of connective tissue, the process not having gone far enough. He admitted that it was open to anyone to form the opinion that the man had had syphilis though he had taken every possible care to exclude it, but he pointed out that Gould's case was in a teetotaler who had never had any venereal disease and Hadden's case was in a nursemaid presumably exempt from syphilis.

SOCIETY OF ANÆSTHETISTS.

Methods of Treatment in Emergencies under Anæsthetics.

A MEETING of this society was held on Jan. 20th, Dr. DUDLEY BUXTON, President, being in the chair.

Mr. ALEXANDER WILSON (Manchester) opened a discussion on the Methods of Treatment in Emergencies under Anæsthetics. After reviewing the mechanism of the usual accidents which occur under anæsthesia, and especially under chloroform, he pointed out that the various measures usually employed fell under one of six classes: (1) external application—e.g., cold, Corrigan's cautery to the epigastrium and ammonia vapour to the nostrils—which excited respiration reflexly; (2) reflex excitation of respiration by mechanical means—e.g., rhythmic traction on tongue (Laborde), dilatation of sphincter ani; (3) stimulation of heart by mechanical and electrical means, including acupuncture; (4) artificial respiration; (5) measures counteracting circulatory failure—e.g., posture, transfusion, &c.; and (6) various drugs—e.g., amyl nitrite, strychnine, atropine, &c. In the first and second of these classes it was necessary that the nervous tissues should be sufficiently alive to convey stimuli. In dealing with measures the aim of which is to stimulate the circulation faradaism to the cardiac region, hot and cold applications to the skin, and præcordial percussion were adversely criticised. While artificial respiration was held to be an effectual measure in failure of the circulation the influence of posture on the circulation was said to be not clear at present, probably a good deal depending on the degree of arterial tone and the influence exerted by gravity. Artificial respiration probably acted in a threefold manner—by removing the anæsthetic vapour, by supplying fresh air, and by promoting blood circulation. Inflation and the Silvester method of artificial respiration were considered the most efficient, but faradaisation of the phrenic nerve, especially in old subjects with rigid chests, had in Mr. Wilson's cases succeeded, other methods failing. All these methods might fail when persistent spasm of the larynx existed. Cases verifying this point were cited. In circulatory failure inversion and pressure on the abdomen were recommended. The danger of emptying the heart by the vertical position, since the cranial circulation was simultaneously depleted, was pointed out. Transfusion was not considered by Mr. Wilson to be devoid of drawbacks. Subcutaneous injection of drugs was open to the objection that for their absorption some degree of circulatory activity was necessary, while it was difficult to estimate whether a given dose administered to a person apparently moribund might not upon his resuscitation set up toxic symptoms of its own.

Dr. BOWLES had always thought that too much might be done in attempts to restore patients. Referring to the methods of artificial respiration he favoured that of Marshall Hall, as by it there was less danger of fluids—e.g., beef-tea, grumous matters, vomit &c.—being pumped into, rather than expelled from, the air passages. In cases of pus or blood in the pleura—e.g., empyema—patients should be placed with the affected side down and the Silvester method employed with one arm only, the supine posture being carefully avoided. When there was fluid in the lungs somewhat the same procedure was recommended as in dealing with those apparently drowned.

Professor SCHÄFER contended that the respiratory, vaso-motor, and other centres in the medulla were probably affected by anæsthetics almost simultaneously, although possibly some were more susceptible than others. At a certain stage of the action of chloroform the blood pressure rapidly fell and this went on *pari passu* with paralysis of the respiratory centre, while the heart's action grew weak itself probably in consequence of paralysis of the vaso-motor centre, the effect on the vaso-motor centre being the most fatal in cases of chloroform poisoning on account of the absence of efficient and ready means of counteracting it. Mere failure of respiration could easily be counteracted, as comparatively slight interchange of air was necessary provided the circulation was unaffected. Chloroform-laden blood probably injured the muscular tissue of the heart rather than interfered with its nervous mechanism. In performing artificial respiration he regarded the performance of expiration as most important. It had been shown that the diminution of the size of the pulmonary alveoli led to inspiration. He advocated the employment of atropine before the giving of chloroform as a means of preventing arterial dilatation, thus tending to counteract the dangerous fall of blood pressure. Two drugs which promoted the greatest contraction of arterioles and so would counteract the greatest danger of chloroform, the fall of blood pressure, were, according to his experience, nicotine and extract of suprarenal capsule. His experience of atropine was by intravascular injection; he had no doubt that hypodermic or intraserous injection would prove equally effectual. Extract of suprarenal capsule possessed an extraordinary effect on the heart, increasing its rate and the force of its beat. He thought these two substances would go a long way towards enabling patients to recover from vaso-motor and partial cardiac paralysis.

The discussion was continued by Dr. SILK, who referred to Professor Wood's admirable work on the subject. Strychnine he regarded as a valuable prophylactic agent. Referring to over-stimulation of the patient by ether he thought too energetic measures did harm; in the main he agreed with Mr. Wilson's contentions. Oxygen in forced artificial respiration was, he thought, often advantageous, and the actual kneading of the heart to empty it had in some cases proved beneficial.

Mr. BARNARD gave a *résumé* of Professor Hill's views and inquired whether morphia would not be a useful adjuvant to chloroform, as he had seen it employed abroad with satisfactory results. He had found the injection of ammonia into the circulation efficacious in chloroform poisoning. Hydrocyanic acid he considered a dangerous drug.

The PRESIDENT pointed out that morphia in conjunction with chloroform had been employed for many years, although not with uniform success. The late Sir Benjamin Ward Richardson had advocated intravenous injection of ammonia as a means of counteracting chloroform poisoning nearly thirty years ago.

Mr. WILSON having replied the meeting was adjourned.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

Local Effects of Iodoform.—Exhibition of Cases.

AN ordinary meeting of this society was held on Jan. 26th, Dr. ROBERT L. BOWLES (in the unavoidable absence of Dr. J. F. Payne) being in the chair.

Mr. J. HANCOCKE WATHEN (Clifton) read a paper on a Personal Reminiscence of the Local Effects of Iodoform, in which he described the attacks of bullous dermatitis of the hands which had followed the handling of dry iodoform gauze. The cause of the condition of the skin was at first thought to be gout. Mr. Wathen referred to the similar personal experience of Mr. Jessop, of Leeds, and stated with regard to treatment that great relief had been obtained by the firm application of bandages to the fingers, with boracic ointment, and occasionally thick gruel, followed by a visit to Harrogate and Ilkley with the use of Aix douche baths. There had been no fresh attack since avoidance of iodoform.—Dr. BOWLES insisted on the great importance of recording such cases of morbid conditions arising from the use of drugs either locally or internally.—Mr. PERNET said he had seen a few cases of iodoform dermatitis. In one an acute localised vesicular eruption followed the application of iodoform powder to a varicose ulcer.—Dr. ABRAHAM stated that he had had a similar experience.

Dr. P. S. ABRAHAM showed: (1) a man presenting peculiar Unilateral Keloidal Scarring about the Upper Part of the Right Side of the Chest; (2) (?) Syphilitic Lesions about the Vulva of a Child aged two years; (3) a male patient with Xanthoma Diabeticorum previously brought before the society; (4) a case for Diagnosis (Rupioid Eruption in a young woman); (5) a lad with Ulcers, probably Syphilitic, which had been regarded as Tuberculous; and (6) a case of Acute Dermatitis in a man, the question being whether the condition had been produced by chrysarobin or whether it was ordinary eczema.

Dr. T. SAVILL showed: (1) a case of Leucoderma in a girl aged sixteen years, who was very emotional, had an enlarged thyroid, and a very rapid pulse at times, the skin condition having been treated by the limited local application of phenol; and (2) Symmetrical Atrophy about the Fingers in a young woman.

Dr. DAVID WALSH exhibited a case of (?) Myxœdema with Acne and Loss of Hair in a young woman.

Dr. ALFRED EDDOWES showed: (1) a case of Lichen Planus Verrucosus, previously shown; (2) Xeroderma in a man who had presented symptoms of myxœdema; and (3) a case for diagnosis.—Dr. EDDOWES also showed the photograph of a case of Folliculitis Necrotica.

Mr. PERNET showed photographs of the two cases of Leprosy observed in the Island of Lissa (Dalmatia) by Dr. Dojmi von Delupis.

The cases were discussed by Dr. BOWLES, Dr. PHILLIPS-CONN, Dr. HARE, Mr. PERNET, Dr. ABRAHAM, Dr. EDDOWES, Dr. SAVILL, and Dr. TRAVERS-SMITH.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

The Nauheim Treatment of Cardiac and Circulatory Affections.

A MEETING of this society was held at 20, Hanover-square, W., on Jan. 28th, the President, Dr. WILLIAM V. SNOW (Bournemouth), being in the chair.

Dr. S. HYDE (Buxton), in introducing a discussion on the External Treatment of Cardiac and Circulatory Affections by Baths, Exercises, and Climate, pointed out that these methods, although not new in principle, are comparatively new to practice and that they have not yet emerged from the necessary stages of trial and verification. Whilst recognising the potency and usefulness of the effervescent saline baths he was inclined to believe that well-regulated exercises combined with suitable change of air were sufficient to obtain equally good results without the baths. He also pointed out the usefulness of forced respiratory exercises in cardiac treatment. As to the alleged shrinkage in the size of the heart he admitted the probability of a gradual but limited diminution as part of the improved nutritive changes in the general organism, but doubted whether the evidence at present available justified more than this. The effects of various mineral baths upon the heart and circulation had been much neglected by bath-physicians and many cardiac cases were benefited during the routine practice of baths, exercise, and climate for other maladies. Much of the success of the treatment at Nauheim was doubtless due to the accessory conditions of change of air, change of diet, separation from drawbacks to treatment, inspiration of hope, and so forth. Dr. Hyde spoke in strong terms upon the use of unqualified attendants, describing it as "fast growing into a gigantic evil fraught with grave danger to the public and serious damage to the profession." In concluding, whilst desiring to accord to the methods of Dr. Schott a true and just estimate of their value, he expressed a belief that it is possible to obtain equally striking results without strict resort to the special Nauheim methods.

Dr. GEORGE OLIVER (Harrogate) described experiments undertaken with the view of ascertaining the effect of baths and resistive exercises on the peripheral circulation of the blood, on the blood itself, on the arterial pressure, and on the pulse-rate. Both baths and exercises, he found, produced a transfer of a considerable volume of blood to the systemic periphery. Every form of exercise was followed by a rise in the percentage of corpuscles, due, he thought, to a rapid fluid transfer through the capillary walls into the tissue of the muscles and the lymphatic spaces. Most physiologists agreed that all forms of active exercise were followed by a rise in the blood pressure, but it had been doubted whether resistive exercises which did not accelerate the breathing produced a rise or a fall. Lauder Brunton and Tunnicliffe concluded from experiments that during the exercise itself the pressure first rose above the normal, but during its continuance began to fall, till at the end it had reached the normal and continued to fall after the cessation of the exercise, remaining so for half an hour or longer and then gradually rising to normal. He had himself found that any form of exercise, so long as it was slow and did not disturb the respiration, was followed by a fall of blood-pressure. The exercise also produced a slowing of the pulse. Lauder Brunton and Tunnicliffe had suggested that in contraction of muscle some material was generated, possessing a vaso-dilator property, of the nature of nitro-glycerine. He had himself found the effects of exercise and of nitro-glycerine to be identical. The reduction of the volume of blood as the result of exercise might be another factor in disposing to lowering of arterial pressure and easing of cardiac work. Resistive exercises might favour compensation by relieving the stress of blood in the weak areas. He had investigated the influence of the respiration upon the circulation, especially where there was impairment or complete paralysis of the splanchnic control, so that the blood in the erect position of the body drained down into the splanchnic area and away from the radial vessels, while in the recumbent position the radial measurement was normal. By a series of respiratory exercises, which he described, the radial calibration was restored to normal, and frequent repetition of these re-established the vaso-motor tone and the general health was greatly improved.

Dr. DOUGLAS KERR (Bath) had found the new treatment useful in certain chronic forms of heart disease characterised by dilatation, with a feeble or soft pulse, which might be intermittent or irregular.

Dr. WILLIAM EWART thought much difficulty had arisen from attempting demonstrations on hearts which could not contract and from missing the time for observing contraction which did occur. Of the reality of such contraction there could be no doubt.

Dr. BEZLY THORNE believed that the heart did undergo shrinkage and submitted radiograms from Dr. Schott in support of this view. Of the baths and the exercises he considered the baths the more effectual, their effects being apparently more permanent. The employment of unqualified assistants in the application of the treatment could not be too strongly condemned.

Dr. LEONARD WILLIAMS considered cases of recent chronic heart disease (cases in which compensation had not been established or had only just been established) were unsuited to the treatment.

Dr. ALEXANDER MORISON thought that Dr. Bezly Thorne had over-emphasised the condition of shrinkage. As for peripheral pressure, he thought a distinction was not always

drawn between pulse-pressure and pulse-tension. The tension might yield very materially while the pressure might be raised.

Dr. HERRINGHAM said that he had never been able to satisfy himself that there was any immediate alteration in the size of the heart at all. Radiograms must be accepted with a certain reservation as it was almost impossible to get a patient into exactly the same position twice consecutively.

Dr. WETHERED urged the necessity of comparing the number of pulse beats at the wrist with those of the heart when ascertaining the effects of exercises and baths as some of the smaller beats seemed not to reach the wrist.

Mr. HAVELL (Felixstowe) believed that cases of cardiac failure following on atheroma benefited almost beyond controversy by the treatment.

The discussion was adjourned till March 2nd.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Cases and Specimens.—The Occurrence of a Vitelline Placenta in the Human Subject.

A MEETING of this society was held on Jan. 12th, Dr. MILNE MURRAY, Vice-President, being in the chair.

Professor SIMPSON showed an Anencephalic Fœtus which had been associated with marked hydramnios; two specimens from cases of Extra-uterine Gestation; and four Uteri removed by vaginal hysterectomy. Of these last two were cases of carcinoma, one of fibroids with probable sarcoma, and the fourth was removed for chronic inflammatory trouble.

Dr. HAULTAIN showed an Extra-uterine Mole which was strictly tubal, but not intra-tubal, as it was attached only to a fimbria. It was removed for severe intra-peritoneal hæmorrhage.

Dr. J. W. BALLANTYNE showed photographs and drawings of frozen sections of a Fœtus with Retroflexion and Torsion of the Spine; what seemed to be a meningocele proved only to be a sac with blood clot, no brain substance being present, hence it was exencephalic. Photographs of other cases of retroflexion of the spine were shown as was also a photograph of a chick with four legs.

Dr. J. W. BALLANTYNE read a paper on the Occurrence of a Vitelline Placenta in the Human Subject. Teratological phenomena have often found a ready explanation in the facts of embryology and conversely instances are not wanting in which knowledge of embryological processes has received enlightenment by the study of conditions which are manifestly abnormal. From the examination of a sireniform fœtus a teratological sidelight is thrown upon the development of the human placenta. The fœtus was born at full time of the third pregnancy of the mother. The child presented by the lower extremity. The placenta and membranes were adherent but were unfortunately not kept for examination, but did not, according to the medical attendant, appear to be abnormal. The fœtus, whose sex was not evident externally, weighed 2902 grammes and had a total length of 50 cm. The head was disproportionately larger than the other parts and the girth of the body in the abdominal and pelvic regions was much less than the normal. The fœtus had from the umbilicus downwards a steadily diminishing circumference. The lower limbs were united into one appendage resembling somewhat the tail of the mythical mermaid. The fused foot was divided on the sole by a deep groove into two parts, one carrying two large toes while the other had four smaller ones attached to it. There were one bone in the thigh and two in the leg. The hip-joint seemed mesial in position. The umbilical cord had only two vessels—an artery and a vein. The vein passed upwards and entered a tunnel in the liver between the right and left lobes and therein seemed to break up in the hepatic substance. The artery originated from the abdominal aorta about the level of the second or third lumbar vertebra and carrying with it a fold of peritoneum passed directly forwards in the middle line of the body to the anterior abdominal wall, which it reached a little above the symphysis pubis. It then turned upwards for about 2 cm. to reach the umbilicus. It thus slung a diaphragm of peritoneum right across the abdomen a little above the plane of the pelvic brim and so shut off the abdominal from the pelvic cavity. Abdominal testicles were found but no trace of urinary bladder, ureters, urachus, or hypogastric arteries. The kidneys were small, flattened, and rudimentary. The aorta after giving off the umbilical artery passed as a much smaller vessel into the pelvis, where it gave off lateral branches. Dr. Ballantyne gave the results of an exhaustive research into all the reported cases of sympodia. In all about 120 cases of this monstrosity have been recorded. In only 11 was there any allusion made to the placenta. He discussed in detail the results of this research as well as the comparative embryology of the placenta and arrived at the following general conclusions. 1. In the sympodial fœtus it is common to find in association with a functionally adequate placenta the absence of allantoic derivatives and vessels and of the structure from which the allantois itself is derived, and the presence of vessels (usually an artery and a vein) in the umbilical cord which appear to be the persistent omphalo-mesenteric cord or vitelline vessels. 2. It may therefore be regarded as probable that the fœtal part of the placenta has in these cases been vascularised by the vitelline instead of the allantoic circulation. 3. This conclusion is supported by the following additional evidence. *a*. The commonly accepted theory of origin of sympodia is pressure (probably amniotic in nature) acting upon the tail end of the embryo and causing defective development of the parts situated there, including, of course, the allantois and its vessels; in this fact may lie the explanation of the absence of the allantoic derivatives. *b*. The omphalo-mesenteric vessels may persist (alongside of the allantoic) till the full term of pregnancy, keeping pace with the normal growth of the umbilical cord, and may then be found to contain blood, showing that they are still functionally active. *c*. In other forms of monstrosity (e.g., exomphalos, placental parasitism, &c.) there is evidence of the development of the placenta by means of the vitelline vessels. *d*. In three of the orders of placental mammalia which resemble the human subject in the possession of a discoid placenta—viz., rodentia, cheiroptera, and insectivora—there is absolute proof of the normal occurrence of a temporary and provisional vitelline or yelk-sac placenta replaced later by an allantoic one; in animals below the placental mammals there is some evidence of the absorption of nourishment from the mother by means of a rudimentary vitelline pseudo-placenta. *e*. Recent researches in human embryology have tended to show that the fœtal placenta is not so exclusively "the organ of the allantois" as was at one time supposed; it may also be that the allantoic vessels are not absolutely necessary for its vascularisation. 4. The vitelline placenta in sympodial fœtuses (and in some other forms of terata) may represent a reversion to the type of placenta formation in the hedgehog or even to that of pseudo-placenta in the marsupials and others still lower in the scale. In this case an arrangement temporary in character in the animal has become permanent in the malformed human fœtus. On the other hand it may yet be shown that early human embryos possess normally a preliminary union between vitelline vessels and omphaloidean trophoblast, in which case the vitelline placenta of sympodia is an arrest of development—a condition normally temporary in the human subject has become permanent in the same.

Dr. BERRY HART could not agree with the conclusions of the paper. Of course the normal placenta is not vitelline and Dr. Ballantyne assumed that it was allantoic. Dr. Hart believed the normal placenta to be an organ of the chorion. The placenta could be vascularised by the vessels of the vitellus. The placenta must have an epiblastic covering to form the epithelium to cover the villi, but the vitellus has no epiblast, only being composed of meso- and hypo-blast.—Professor SIMPSON and Dr. BARBOUR took part in the discussion and Dr. BALLANTYNE replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

The Vaginal Tampon in Accidental Hæmorrhage.—Exhibition of Specimens.

A MEETING of this Section was held on Jan. 7th, Dr. F. W. KIDD, President, being in the chair.

Mr. HASTINGS TWEEDY read a paper on the Action of the Vaginal Tampon in Accidental Hæmorrhage. He contended that when this was properly applied it directly compressed the uterine arteries, acting on them as does a tourniquet. A

well-fitting plug should, in the first instance, fix the cervix by completely surrounding it with pledgets of moist cotton-wool packed as tightly as possible and should then fill the vagina to its utmost capacity, direct compression thereby being exercised on the uterine arteries. The obstruction to the circulation thus brought about causes, moreover, an accumulation of carbonic acid gas in the uterine muscles, which is a well-known and powerful stimulant to uterine contractions.—Dr. WINIFRED DICKSON said that accidental hæmorrhage had always seemed to her to be the very worst complication in midwifery. She thought that the plug ought to be sterilised.—Dr. MACAN wanted proof of the statement that the uterine arteries are stopped by the process of plugging. He preferred to use a Barnes's bag in preference to plugging the vagina.—Dr. ALFRED J. SMITH said that he did not understand how a vaginal plug would so act as to compress the uterine arteries. He thought that the best treatment in grave cases would be to ligature the uterine arteries direct and the uterus could then be removed. Death from accidental hæmorrhage generally occurred after delivery up to two hours after parturition.—Mr. TWEEDY, replying, said that in one of the cases which he had been able to study, he was easily able to bend the whole broad ligament by pressing in the lateral fornices and pulling down the cervix, and was able to tighten the lower portion of the broad ligament against the upper portion. A branch of the uterine artery ran to the cervix before the uterine artery entered the uterus, and if the cervix were pulled upon and a plug placed outside the branch the uterine artery must receive a sharp bend at the plug.

Dr. ALFRED J SMITH showed a large Fibro-myoma with uterus and appendages removed by cœliotomy. The patient's recovery was uneventful.

Dr. R. D. PUREFOY showed a Myomatous Uterus removed by cœliotomy.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A meeting of this Section was held on Jan. 14th, Dr. J. M. PURSER President, being in the chair.

Mr. NORMAN and Dr. RAMBAUT demonstrated a specimen of Aneurysm of the Heart, which was discussed by Dr. MCWEENEY and Mr. CROLY, and Mr. NORMAN replied.

Dr. H. T. BEWLEY showed a specimen of Cirrhotic Liver with Adenomatous Tumour, which was discussed by Mr. NORMAN, the PRESIDENT, Dr. MCWEENEY, and Mr. CROLY, and Dr. BEWLEY replied.

A specimen of Dissecting Aneurysm of the Aorta was shown by Mr. NORMAN and Mr. REDINGTON and discussed by Professor BEMNETT (President of the Academy), Mr. CROLY, Dr. KNOTT, and the PRESIDENT of the Section.

Mr. A. H. BENSON described two cases of Intra-ocular Sarcoma treated by Enucleation. In the first case the growth was a spindle-celled melano-sarcoma and there was no recurrence after thirteen months. In the second case there was no recurrence after a year and ten months. The tumour was a leuco-sarcoma entirely devoid of pigmentation.

Reviews and Notices of Books.

Soils and Subsoils, from a Sanitary Point of View: with Especial Reference to London and its Neighbourhood. Memoirs of a Geological Survey, England and Wales. By HORACE B. WOODWARD, F.R.S. Published by Order of the Lords Commissioners of Her Majesty's Treasury. Printed for Her Majesty's Stationery Office by Wyman and Sons, Limited. London: Eyre and Spottiswoode, East Harding-street, Fleet-street, E.C. 1897. Price 2*s.* 6*d.*

WE welcome the appearance of the excellent monograph on Soils and Subsoils which is issued from the office of the Geological Survey. The object of the pamphlet is briefly and clearly set forth by Sir Archibald Geikie, Director-General of the Department, in a short prefatory note. Inquiries, it seems, are frequently made at the office of the Geological Survey for information regarding sites for houses and on other questions which involve the practical application of geology to questions of everyday life. It has therefore been thought well to put in an accessible form a summary of what is known of the way in which soils and subsoils affect the health of the community. The London district is taken to illustrate the subject and the pamphlet gives a description of the geology of the district in the immediate neighbourhood of London. The district embraces Windsor on the west, Tilbury on the east, extends northwards as far as Broxbourne and southwards as far as Dorking, Reigate, and Sevenoaks. The book is illustrated by an excellent, clearly printed, coloured geological map showing the subsoils of the whole of this district. Mr. Horace B. Woodward has treated the subject clearly and concisely and the book contains an enormous amount of useful information in a condensed form.

The first chapter contains a general description of the geological formation of the London basin. The second deals with the soils and subsoils of London and the neighbourhood and contains some information which will certainly be of great use to those people who are free to choose the site of their houses with reference to their sanitary aspects. Some details given on the subject of "made ground" will probably come as a surprise to many readers. An illustration showing a section of the soil at Cannon-street graphically shows how very much higher the street now is than it was in the Roman times. The rate at which soil accumulates in London is said to vary from 6 in. to 1 ft. in a century, and a great deal of the "made ground" of London is thus of ancient date and many places which have been undisturbed still show interesting relics of the Roman occupation. It is, however, the "made ground" of modern times which is of most importance from a sanitary point of view. When good material is brought for the foundation of the house the results are satisfactory, but it unfortunately happens that in many places pits filled with all sorts of rubbish, including decayed vegetable matter, form the "made ground" on which modern houses are built. We have ourselves lately seen a pond described as an excellent building site, and no one can walk far in the outlying suburbs of London without coming across a notice that "Rubbish may be shot here," which is a not unusual preliminary to the advertisement of the place as an excellent building site. Mr. Woodward rightly protests against "made ground" of this description and goes on to give an account of the gravel, sandstone, clay, and limestone subsoils which are to be found in and around London.

The third chapter deals with clay and gravel subsoils, with the contamination of subsoils, the foundations of buildings, and with the sanitary signification of geological faults. The fourth chapter deals with the question of water-supply and of drainage, and the fifth with fog and sunshine. The final chapter contains some excellent remarks about cemeteries. There is a very full index giving the heights of the places mentioned in the maps. The amount of information contained in this little book is very great and we cordially recommend it to all those who desire to obtain clear and accurate information on the important subjects with which it deals. All medical officers of health in the district described should possess the book, which contains in readily accessible form practically all the general information which they are likely to want. The book is clearly written and contains a number of excellent illustrations: it deserves to be very widely read. We fear, however, that there are two reasons which will prevent the book from having the circulation which it undoubtedly deserves. One is that the outside cover, which is of thin yellow paper, shows clearly that it is a Government publication, and that fact suggests to the person whose experience has not taught him to know better that the book is necessarily dull. The other reason is that the book is published at half a crown, which appears at first sight rather a large sum to pay for a pamphlet of fifty-eight pages.

Mediterranean, Malta, or Undulant Fever. By M. LOUIS HUGHES, Surgeon-Captain, Army Medical Staff. London: Macmillan and Co., Limited. 1897. Pp. 219. Price 7*s.* 6*d.*

THIS is a valuable contribution to the literature of an important subject. The fever, hitherto known generally as Malta fever but for which Surgeon-Captain Hughes has suggested the new name of undulant fever, is endemic and at times epidemic not only in Malta but also elsewhere in the Mediterranean. "Its lengthened duration causes an enormous yearly financial loss from non-effective pay and invaliding, while it may be said to be the most important and, next to venereal diseases, the most prevalent form of sickness affecting our Mediterranean forces." These words, which occur in the preface, afford ample justification for the author's careful and detailed study of this disease of which the present volume is the outcome. The proposed name of undulant fever, which was first suggested by the author in 1896, has no little to be said in its favour and its advantages are clearly and temperately set forth in the introductory chapter. On the other hand, the nomenclature of the disease is already very long and complicated and it may be questioned whether it is desirable or necessary to add to it and also whether the new name, based on the character of the temperature curve, is destined to supplant the older name based on the geographical distribution of the fever. Under the older heading of Malta or Mediterranean fever the disease has for many years held a definite place in all the standard text-books and dictionaries of medicine.

Historically the occurrence of Malta or undulant fever may be traced back with some certainty to the beginning of last century and with some degree of probability to a very much earlier date. It was not, however, until Dr. Marston's careful description of it in 1859 that any accurate knowledge was gained, or that it was clearly separated from other fevers, such as remittent, intermittent, and typhoid. The next great step in advance was the discovery by Dr. Bruce in 1886 of what appears to be the specific organism of the disease. Since that time Dr. Bruce, Surgeon-Captain Hughes, and others have from time to time published in our columns and elsewhere further observations on this micro-organism and on the fever of which there seems little doubt it is the cause or at least the invariable concomitant. But the present volume is the first and at present the only handbook devoted exclusively to a study of this fever in all its aspects and it is therefore deserving of considerable attention. It is impossible to summarise in the limits of a review the great amount of information which Surgeon-Captain Hughes has brought together and we can only select here a few of the more salient points, all of which are very ably and lucidly discussed and on many of which new light is thrown. In regard to the causation of the disease some interesting evidence is brought forward and the conclusion arrived at that the prevalence of the fever is closely connected with fæcal pollution of the surrounding soil seems to be fully justified. The sanitary condition of Malta appears to be, indeed, far from ideal and there is everywhere ample opportunity for sewage matter to escape into and contaminate the soil. "It also seems probable that the living virus is excreted with the fæces and urine, and so returning to the soil is able to infect the air of a definite and circumscribed area and so re-enter the human subject." The living virus is in all probability the organism to which the author in 1892 gave the name of "Micrococcus Melitensis"—a name to which he would now add "*vel* Brucii" in honour of its discoverer. A careful description is given of the bacteriology of the disease and of a series of experiments which seem to confirm the specific nature of the micrococcus. The chapter on the Causation of the Disease is a very well-written one, prominence being given to its bacteriological aspect, but due weight being also attached to the many other problems connected with its prevalence and propagation. The chapters on Symptomatology and Differential Diagnosis are equally valuable. Malta fever has probably the longest duration of any of the infectious fevers, the average stay in hospital of patients invalided by it being ninety days. The diseases with which it it most likely to be confounded are enteric fever and paludism and in the early days after onset it may not be easy to differentiate between them. By the aid, however, of the very clear information on this head given in these pages the difficulty should be materially lessened. One or two painful instances are recorded in which patients have been certified as suffering from Malta fever and requiring removal to a healthier climate, but who have—during or shortly after their removal—died from perforation of a typhoid ulcer. Such cases show the great importance, not only of a correct diagnosis, but also of attending to the first of the four aphorisms on "invaliding" patients with which this volume closes—namely: "Do not invalid patients until a sure diagnosis has been made nor until the acute stages are over." The chapter on Prophylaxis, Treatment, and Invaliding is full of useful and practical information, though it must be confessed it holds out little promise of being able to cut short the long and tedious course of the disease by any specific method of treatment or drug.

This book should certainly be in the hands of all medical men who are likely to spend any lengthened period of time in Malta or in the other parts of the Mediterranean where the fever is known to occur. To medical officers of the army or navy stationed in the Mediterranean it should prove indispensable. We may add that the book is well printed on good paper, that it contains a number of valuable charts and tables, and that it seems to be well indexed. Its practical value as a work of reference would, however, have been considerably increased had the plan been adopted of printing marginal summaries against each paragraph and were the contents of the chapters printed unabridged at the beginning of the book as well as at the head of each chapter. These small blemishes might easily be remedied in future editions.

Archives de Physiologie. Publiées par MM. BOUCHARD, CHAUVEAUX, et MAREY. Cinquième Série. Tome x., No. 1. Janvier, 1893. Paris: Masson et Cie. Prix de l'abonnement, 28 fr. par an.

THE following are the original articles in this part:—1. Influence of Exposure to Cold on the Topography and Variation of Temperature-Thermogenetic Resistance of the Human Organism, by M. J. Lefèvre. In this paper the author has endeavoured to determine by means of Fourier's contact pile thermometer and by the application and insertion of a thermo-electric needle the temperature not only of different parts of the body but of the skin at different depths and of the subjacent tissues. He shows that the influence of exposure to external cold penetrates only to a small distance below the skin and that the different parts and organs of the body if one be cooled or heated rise and fall together. 2. The Comparative Conductibility for Heat of the Tissues of the Body, by Dr. H. Bordier. Taking air as unity bone is represented by the number 4·45, muscle 2·83, blood-clot 2·71, tendon 1·92, cartilage 1·85, and fat 1·38. 3. Researches on the Changes undergone by Gases injected into the Tissues, by MM. Rodet and J. Nicholas. Air, oxygen, and carbon dioxide were injected into the subcutaneous connective tissue and into the larger serous cavities. 4. On the Influence of Sections of the Mesentery on the Vitality of the Small Intestine, by Dr. Begouin. Many drawings accompany this article showing the effects of sections; transverse sections of blood-vessels and nerves extending over 30 cm., or

about a foot, were followed by gangrene. 5. On the Amount of Subcutaneous Absorption of Antitoxic Substances of Serum in the Rabbit, by Dr. Honoré van de Velde. 6. The Action of the Digestive Fluids on Microbic Poisons, by M. A. Charrin. 7. Thoughts on the Mechanism of Immunity, by Dr. F. J. Bosc. 8. MM. J. C. Roux and V. Balthazard: A Study of the Movements of the Stomach with the Roentgen Rays. The opacity of the walls of the stomach caused by the injection of bismuth nitrate is ingeniously employed to obtain photographs and the movements are shown to be rapid. 9. Central Thermic Polypnœa and the Mechanism of its Production, by MM. J. Athanasiu and J. Carvallo. The authors show that heat acts on the respiratory nerve centre directly. 10. On the Physiological Identity of the Suprarenals of Batrachians and of Mammals, by M. P. Langlois. 11. On the Physiological Effects of Subcutaneous Injection of Renal Extract, by MM. J. Teissier and H. Frenkel. 12. The Mechanism of the Destruction of the Active Principle of the Adrenals in the Organism, by M. P. Langlois. 13. Histo-pathological Researches on the Conditions of the Nerve Centres in Thoracic and Abdominal Shock produced by Experiment, by Dr. C. Parascandolo, with two plates. 14. On Tetanus, and that it is not due to an appreciable Lesion of the Medullary Nerve Cells, by MM. J. Courmont, Doyon, and Paviot. 15. On the Fixation of Enzymes by Fibrin, by M. Stanislas de Szumowski. 16. On the Martial Function of the Liver in all Animals, by MM. A. Dastre and N. Floresco.

Some Points in the Anatomy, Pathology, and Surgery of Intussusception. By D'ARCY POWER, M.A., M.B. Oxon., F.R.C.S. Eng., Surgeon to the Victoria Hospital for Children, &c. London: The Rebman Publishing Co. 1898. Pp. 88. Price 4*s*.

INTUSSUSCEPTION is a condition the importance of which for a long time was underrated; not, indeed, that the affection was not recognised, for Hippocrates has described it and advised the administration of enemata, and numberless writers since have devoted much time to the study of it, but many problems connected with intussusception still remain unsolved, and in this little volume Mr. D'Arcy Power has set forth his own researches into the pathology and treatment of this serious disease. The substance of the book formed the material for a series of lectures delivered at the Royal College of Surgeons of England in February, 1897, but the book contains much more than the lectures as the author found it impossible to utilise all the material he had collected. The most original feature of Mr. Power's monograph is the account he gives of the microscopic examination of a number of cases of intussusception. Of the histological changes in hernia very little is known and still less are we acquainted with the minute anatomy of the far rarer condition, intussusception. It is not at all easy to obtain the material for an investigation of these microscopic alterations of structure, but the author has succeeded in examining thirty-one cases; one of the specimens is of great interest—it was obtained by John Hunter from the body of a boy nine months old who died in 1789 and it inspired Hunter's celebrated paper "On Intussusception." The conclusions at which Mr. Power arrives are that in an intussusception the layers of the bowel wall which are most likely to be injured are the submucous tissue and the circular layer of muscle. There is always an effusion of blood, usually into the submucous coat, but in the most acute cases into the mucous membrane. Following the effusion come inflammatory changes, which may terminate in overgrowth of the connective tissue and sclerosis or lead to tryptic digestion of the affected bowel or to sloughing. With regard to the pathology of intussusception the author adduces elaborate statistical evidence to show that the spontaneous ileo-cæcal forms of the condition occur when the colon is markedly larger than the ileum and is unduly moveable. The exciting cause is obscure, but certain mechanical disturbances, such as sudden violent movements or irregular intestinal contractions, may be credited with starting an intussusception.

As to the treatment which should be adopted the author advises that except in enteric cases (that is, cases limited to the small intestine) or those with very severe symptoms the routine treatment should be to distend the large bowel with hot salt solution under a pressure of not more than three feet of water, the liquid being allowed to remain in the intestine at least ten minutes, the patient being under the influence of chloroform. In cases where this treatment has not succeeded in reducing the intussusception, or if the condition has thrice recurred, and in the acute and severe cases already mentioned, the abdomen must be opened. The book is exceedingly well written and for a long time to come must be looked upon as a record of the most complete investigation and study which we possess of this very important affection. The work is well printed and is well illustrated by twenty-seven figures, the most interesting of which are those which demonstrate the minute pathological anatomy of intussusception.

LIBRARY TABLE.

The First Principles of Electricity and Magnetism. By C. H. W. BIGGS, Editor of the *Electrical Engineer*. Illustrated with about 350 Diagrams. London: Biggs and Co., 139-140, Salisbury-court, Fleet-street, E.C. Price 3*s*. 6*d*.—This book is intended for beginners in practical work and had its origin in a series of articles based upon the Syllabus of the City and Guilds Institute which the author commenced in the pages of the *Electrical Engineer* some time ago. Mr. Biggs is right in saying that the book contains a good deal of useful information not usually to be found in similar books. He has succeeded in covering a very wide field within comparatively small compass. He writes largely from the practical point of view. He is clear in his descriptions and theoretical explanations. He recapitulates the ground by a series of questions placed at the conclusion of each chapter, the answers to which occur in the foregoing text. This is an excellent plan from the point of view of instruction and the author means his work to be educational. There are some interesting chapters on the development of electric lighting and arc lamps and incandescent lamps and the essentials of their construction are clearly described. The illustrations serve well to make intelligible the difficult subjects of resistance, of batteries connected in parallel and in series, the measurement of current, the questions of pressure, intensity, and so on. The book will obviously be useful to those intending to take up a practical and technical course.

Outlines of Rural Hygiene: for Physicians, Students, and Sanitarians. By HARVEY B. BASHORE, M.D., Inspector for the State Board of Health of Pennsylvania. With an appendix on the Normal Distribution of Chlorine by Professor HERBERT E. SMITH, of Yale University. 75 cents net. Philadelphia: The F. A. Davis Co.—This is a useful little manual dealing with the rudiments of modern hygiene. In an admirable digest on methods of waste disposal we are pleased to recognise that the author inclines to natural methods of purification rather than to chemical treatment which destroys both pathogenic as well as the nitrifying organisms. Further, pathogenic organisms cease to exist when nitrifying organisms are at work. The author thinks the determination of chlorine is sufficient for most purposes to establish the quality of drinking water. Of course in America, where elaborate tables have been drawn up giving the exact normal chlorine of localities, this may be so.

Dod's Parliamentary Companion. London: Whittaker and Co. 1898. Price 4*s.* 6*d.*—The volume for 1898 of this useful and reliable little book has, of course, no such item of purely medical interest as had the 1897 edition with its announcement of the first medical peer, but as a work of reference it is as indispensable as ever. That the information is brought well up to date is shewn by the fact that the death of Sir Henry Havelock-Allan late Member of Parliament for South-East Durham is duly noted.

Stewart Clark. By S. E. S. C. London: Baillière, Tindall, and Cox. Price 7*s.* 6*d.*—Stewart Clark was a medical officer in the Honourable East India Company's service. He worked through the Mutiny and, in company with many others both of British and Asiatic blood, did his duty nobly during a very trying and terrible time. Not only was he a medical man but he filled many important posts in other departments such as those of Postmaster-General, Inspector of Prisons, and the like. The record of his life written by his widow is worth reading, but it contains many details of family rather than public interest.

Scenes of English Life. No. 1 of the English Series of the Psychological Methods of Teaching Languages. By HOWARD SWAN and VICTOR BÉTIS. With a Preface on the Method for Teachers of the Deaf. By SUSANNA E. HULL. London: George Philip and Son. Price 2*s.* 6*d.*—This book is founded on the admirable method of M. Gouin. Instead of the pupil ploughing wearily through grammar and syntax he is led to take an intelligent interest in his work by being made to picture a scene and then repeating the incidents of the scene after the teacher. In this way a foreign tongue can very soon be learned. Grammar is, of course, not neglected but relegated to its proper place.

Premature Burial: Fact or Fiction? By DAVID WALSH, M.D. London: Baillière, Tindall, and Cox. 1897. Price 1*s.* 6*d.*—This is a counterblast to a book called "Premature Burial" by W. Tebb and E. P. Vollum, M.D. Only ignorant people could or would be willing to believe or be moved by the arguments which Messrs. Tebb and Vollum adduce as to the alarming frequency with which people are buried alive, but ignorant people need teaching, and Dr. Walsh's plain statements are well calculated to afford such instruction. We would also recommend the perusal of one of Poe's tales which deals with the same subject.

JOURNALS AND REVIEWS.

The *Journal of State Medicine* (the official organ of the Royal Institute of Public Health). No. 1, Vol. VI.—The opening paper deals with the Inspection of Water Supplies, by Dr. Thresh. The keynote of the article is indicated by the opening sentence which says: "Notwithstanding the labours of various Royal Commissions and the unwearying efforts of the Local Government Board the outbreaks of preventable disease due to the pollution of public water-supplies furnish abundant proof of the fact that the care taken to ensure the hygienic purity of water used for domestic purposes is in very many cases utterly inadequate." As Dr. Thresh points out, a full inspection of any source of public supply requires not only a certain knowledge of geology, physiography, chemistry and of engineering but a large amount of ingenuity and power of attention to details if no point is to be overlooked. The subject, indeed, bristles with difficulties, but that should only cause the greater determination to conquer them. The Hygienic Institute of the State University of Utrecht is described by Professor Dr. G. van Overbeck de Meyër, and there is a note on the Imperial Institute of Experimental Medicine at St. Petersburg.

St. Thomas's Hospital Gazette. No. 1, Vol. VIII.—The Old Physicians of St. Thomas's Hospital, a lecture delivered before the Medical and Physical Society by Dr. J. F. Payne, is prefaced by a portrait of Richard Meade, "the most eminent physician in the age of Queen Anne and the first two Georges." The Parsee Method of Disposing of the Dead gives a good account of the structures which have been appropriately named "Towers of Silence." As the question of premature burial is so much in the air just now it is interesting to note that the fear of being buried alive is shared by the Parsees in common with many other peoples. Among their funeral ceremonies is a rite called "sag deed" which consists in leading a dog held in check by a white cord fastened to its collar up to the body. "The meaning of this mystery is that if the body be that of a person not really dead the dog will show it by his behaviour and thus a premature confinement to the tower will be avoided."

The *Medical Temperance Review*, the official organ of the British Medical Temperance Association, has clothed itself in a new dress, but its inward spirit, as the editor informs us, remains the same. Dr. G. Sims Woodhead, the President of the Association, writes on Recent Researches on the Action of Alcohol, which tend to show that the resisting power of the tissues is reduced by alcohol. This number also contains the abstract of a lecture on the Effect of Alcohol on the Process of Repair, by Mr. E. Claude Taylor, F.R.C.S. Eng., and a short paper on Progress in German Legislation for Inebriates, by Dr. William Bode.

Journal of the Sanitary Institute. Vol. XVIII., Part 4, January, 1898.—The present quarterly issue of this journal is rather more bulky than usual as it contains abstracts of many of the papers that were read at the recent Congress at Leeds. It would be invidious to select any one paper for special mention as they are nearly all of the first importance to everyone interested in sanitation and hygiene. The 1898 Congress, it is announced, will be held during the month of September at Birmingham.

The Dentist: an Independent Journal devoted to the Interests of the Dental Profession.—This is an entirely new dental publication and is to be published monthly by Messrs. Hampton and Co., Cursitor-street, E.C. The first number contains some fairly interesting articles, one or two of which are rather foreign to the subject of dentistry. It is, however, difficult to judge of the value of this new periodical until further numbers have appeared. One little point we notice is that the account of a case of coryza of dental origin (page 17) is evidently taken from the columns of THE LANCET, but there is no acknowledgment of the fact.

The Humanitarian.—There are several articles of interest in the February issue of the *Humanitarian* which has for a frontispiece a good reproduction of a photograph of Émile Zola. The first article is an account of an interview with M. Zola on the subject of Anti-Semitism in France and naturally bears on the Dreyfus case—that sad commentary on the legend, of which Frenchmen should be so proud "Liberté, Égalité, Fraternité." It will be interesting to Englishmen to learn that it has been left to England to find the one solution of the anti-Semitic question by refusing to divide herself up into Jews and Englishmen and by giving to that much persecuted race the equality which is accorded by English laws. Nafeesh Hanoum contributes an article upon the Women of the Harem and gives a more optimistic view of that institution than that generally entertained by the advocates of women's rights. "The reputed indolence of the women of the harem," he says, "is quite as mythical as are many of the other legends with which we are familiar." H. W. C. B. deplores the severity of corporal punishment in military prisons in India and the colonies. On the authority of a warder he tells his readers that "in the prisons at Lucknow, Poonah, and Rawal Pindi—to mention no others—a man gets five and twenty lashes when he would have two or three days' bread and water or a reduction to a lower stage at home."

New Inventions.

A NEW RECTANGULAR SPLINT FOR USING AFTER REMOVAL OF THE BREAST.

I PRESUME it is the practice of most modern surgeons when removing a breast for scirrhus at the same time to clear away the underlying pectoralis major and thoroughly clean out the axilla. When such cases are dressed in the ordinary way with the arm tightly bandaged across the chest

FIG. 1.

The upright piece is applied against the chest wall, the horizontal part supporting the arm as far as the elbow.

it very frequently happens that a great deal of discomfort and pain are experienced by the patient, and after the wound has healed the movements of the shoulder are generally very limited and painful. On Nov. 8th, 1897, I showed a patient at the Medical Society of London, sixteen days

FIG. 2.

Shows method of applying splint.

after removal of the breast, sterno-costal part of pectoralis major and axillary glands, to demonstrate the very great advantages to be derived from keeping the arm at a right angle to the body instead of tightly bandaging the limb across the chest as is the usual practice. At my suggestion Mr. J. H. Montague, of 101, New Bond-street, London, has made a rectangular splint, as illustrated, fitted with a moveable joint, for treating this class of cases. The advantages I claim to be derived from using this splint are: 1. The position is a most comfortable one for the patient. The forearm and hand being free there is no cramp or stiffness of elbow, wrist, or fingers. 2. When the splint is removed there is no stiffness of the shoulder, the patient being able within a fortnight of the operation to dress her back hair and hook her dress. 3. Requisite pressure can easily be maintained to keep the surfaces of the wound in contact. 4. Where much skin has been removed, should the position of abduction cause too much tension upon the

FIG. 3.

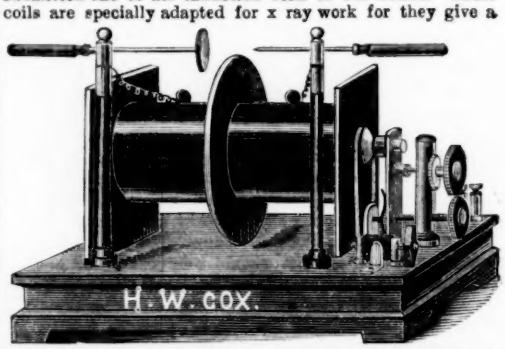
Photograph of same patient sixteen days after operation, to demonstrate range of shoulder and arm movement.

stitches the arm can be brought forwards and so relax the parts by altering the joint of the splint to the required angle. The illustrations (Figs. 2 and 3) illustrate the splint applied and after removal.

EDWARD COTTERELL, F.R.C.S. Eng., &c.,
Surgeon to the Cancer Hospital and the London Lock Hospital, &c.
West Halkin-street, Belgrave-square, S.W.

INDUCTION COILS.

MR. H. COX, of 11, Cursitor-street, Chancery-lane, has submitted one of his induction coils to our notice. These coils are specially adapted for x ray work for they give a



very steady current, while by an ingenious arrangement of the interrupter sparking and sputtering are reduced to a minimum and noise is almost absent. The winding is all done under Mr. Cox's personal supervision and the coils are made in all sizes up to one giving an eighteen-inch spark. The prices are very reasonable.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 5, 1898.

CONSIDERING the importance of the subject it is remarkable that since 1870 no detailed account of PETTENKOFER and BUHL'S theory as to the relationship between ground-water and the prevalence of enteric fever has, so far as we know, appeared in this country. In that year PETTENKOFER contributed to the columns of the *Medical Times and Gazette* an article in answer to a paper by the late Sir GEORGE BUCHANAN in which he stated in considerable detail the evidence in favour of his views and against the theory of water-convection of enteric fever. Every text-book now contains a reference to PETTENKOFER'S theory; but the hiatus in our detailed knowledge of the subject remained until Dr. CHRISTOPHER CHILDS'S very valuable paper[1] was read on Jan. 21st of this year at a meeting of the Epidemiological Society. In preparing this paper Dr. CHILDS has made several protracted visits to Munich, has had the advantage of the assistance of PETTENKOFER himself as well as of his coadjutors and successors, and it may be inferred therefore that Dr. CHILDS'S contribution contains all the available evidence bearing on this important subject.

The first noteworthy point is the remarkable decline in enteric fever which has occurred at Munich. Taking the year 1869 as the starting point, because in our English statistics it was in this year that enteric was first distinguished from other forms of continued fever—we find in London a death-rate of 34, while in Munich it was 149 per 100,000 inhabitants. In 1895 the death-rate from enteric fever in London was 14, in Munich it was only 3 per 100,000 inhabitants. It is evident that Munich, in which there was much more scope for improvement, has not only made up its leeway but has outstripped London in a manner and to an extent which is not creditable to the local and central sanitary administration of the latter city. What circumstances have brought about this remarkable improvement? In looking for the cause or causes we naturally inquire as to the drainage of the city, as to its water-supply, and as to the improvement in other sanitary conditions. Munich is built on the old gravel bed of the River Isar, which averages about 30 ft. in depth and is underlaid by impermeable marl. Until 1858 all the excreta of Munich were deposited in soaking privies and cesspits in this gravel, in which the range of the vertical movement of the ground-water is usually from 1 ft. to 2 ft. per annum; and until much later the water-supply of the city was derived from wells in the same gravel bed. In 1858 the cesspits were ordered to be made watertight and were henceforth periodically emptied by the municipal authorities. Between that time and 1878 certain parts of the city were sewered and in 1881 the sewerage and house drainage, on a system devised by an English engineer, Mr. GORDON, was begun, though it is not even now complete, a large number of water-tight cesspits still remaining. The water-supply of the city before 1865 was derived from wells within the city, all more or less surrounded by houses and subject to organic pollution. In 1865 the Pettenkofer waterworks began to supply the southern and western districts of the city, the water being derived from subsoil springs in an uninhabited district above the city. In 1883 a fine water-supply from a highland district twenty miles distant from Munich was introduced. This has *gradually* supplanted nearly all the old water-supplies. The chemical analyses appended to Dr. CHILDS'S paper, although illustrating the imperfections of German methods of water analysis, show very clearly the gradually decreasing purity of the ground-water used for drinking as it travels from the Pettenkofer waterworks district one to two miles above Munich to the opposite extremity of the city, collecting impurities in transit. It is a curious fact that analyses of the ground-water derived from the city wells show that it is as a rule purer when the level of the ground-water is falling and more polluted when it rises—a point which obviously does not favour BUCHANAN'S view that the lower ground-water was a cause of enteric fever, because under this circumstance the cone of impure subsoil from which the well gathered water became much wider.

PETTENKOFER appears to have begun his investigations into the origin of enteric fever and cholera as a believer in the constant convection of these diseases by drinking water. This was disturbed by his inability, first in the case of cholera and subsequently in that of enteric fever, "to trace any of the local outbreaks which frequently occurred to any of the many separate water-supplies," which appeared to furnish exceptional opportunities for proving the truth of the drinking-water theory. PETTENKOFER subsequently found that in the great epidemic immediately following the introduction of the Pettenkofer waterworks water those who made use of this presumably pure water suffered just as much as those who continued to drink the old water-supplies. There is the further important fact that the people of Munich were drinking subsoil water and no other until 1883 and yet the death-rate from enteric fever in that and the two preceding years was only 19, 18, and 18 per 100,000 inhabitants respectively, whereas the lowest death-rate in any preceding year was never below 52 per 100,000. An improvement that occurred before the introduction of the highland supply of water could scarcely be ascribed to the latter! In 1884 PETTENKOFER investigated the enteric mortality in 871 houses containing 23,302 people who were still supplied with water from sources within the city. He found that "they did not suffer more from typhoid than their fellow citizens who drank of the pure highland water-supply." More recently PFEIFFER and EISENLOHR investigated the incidence of enteric fever in certain districts in 1888-92. They found that 69·9 per cent. of the houses (out of 665 examined) served exclusively with the highland water-supply had 70·5 per cent. of the cases of enteric fever.

If these facts have been collected in a trustworthy manner they evidently tell very strongly against the view that enteric fever is chiefly water-borne in Munich. It is unfortunate that further details are not forthcoming and that Dr. CHILDS, notwithstanding the time and trouble bestowed on

[1] Published in our present issue, vide p. 348.

his investigation, is still obliged to leave the accuracy of the main induction to stand or fall, owing to hiatus in the evidence, upon the deservedly high personal authority of PETTENKOFER.

The alternative theory to that of water-convection of the infection is that pollution of the subsoil occurred in Munich on a wide scale (this pollution was produced not only by privies and cesspits, but also by 800 slaughter-houses which were abolished in 1878); that this pollution favoured the multiplication in the subsoil, under certain favouring conditions of temperature and oscillation of the ground-water, of the specific virus of enteric fever, and that the failure in recent years of the epidemic waves to appear is due to the gradual purification of the subsoil by natural processes, the non-addition of nutrient sewage material preventing the continued vitality of the virus in the subsoil. The charts of incidence of enteric fever in Munich showed a striking association between fall of ground-water and increase of enteric fever. In this country it appears that the same relationship holds good, for 1868, 1874–75, and 1893 were exceptionally dry years and were also years of epidemic enteric fever. The exact relationship between the two remains doubtful. Many of the great epidemics in this country are undoubtedly water-borne, directly through drinking-water, or indirectly by means of watered milk. But does this cover the whole ground? How are we to explain the numerous sporadic cases which although they do not so powerfully affect the popular imagination still form the vast majority of the cases in the whole community? A certain proportion of these may be ascribed to sewage-contaminated shell-fish or other infected articles of food. There remain a large number of cases which neither polluted water nor polluted food will explain and we are obliged to invoke the factor of insanitary local conditions, to which Dr. SEATON has drawn attention, as a continuing and too much neglected cause of sporadic enteric fever. It would appear that bacteriological evidence is about to support that which is already established on wider grounds. The recent experiments made by Dr. ROBERTSON and Dr. SIDNEY MARTIN point in this direction. It may be that after neglecting the considerations urged many years ago by PETTENKOFER we shall by this indirect and somewhat circuitous path arrive at a partial agreement with his theory, premising that the great epidemics of enteric fever in a community are nearly always water-borne, while the sporadic cases are due to soil-pollution, and this soil-pollution is most active and operative when the ground-water is exceptionally low and the soil-temperature and humidity are most favourable to the multiplication of the Eberth bacillus.

If we accept this view, which best reconciles discrepant considerations, there will be no difficulty in recognising the fact that in order to annihilate enteric fever the soil conditions of each community must be so improved as to starve the Eberth bacillus out of existence. Water is after all but a vehicle of the disease which is generated in the soil. By preventing pollution of drinking-water we prevent the living contact between the bacillus and the patient *viâ* water; by purifying the subsoil we prevent the possibility of the multiplication of infective material. Hence measures directed to the purification of the subsoil, whether they be the construction of water-tight sewers and drains, the provision of open spaces with abundance of vegetation, or any other, are among the most important problems of public health.

WE have placed before our readers a *résumé* of the circumstances which have now become widely notorious in the lay press under the heading, "The Darenth Asylum Scandal," and we may say at once that the word "scandal" is excellently applied to the situation. It will be remembered that a special committee which had been appointed to investigate the unsavoury tragedy framed a report of which the one important recommendation was that Mr. A. T. O. WHITE, the acting medical superintendent of the Darenth Imbecile Asylum, should be called upon to give in his resignation. This report was adopted at a meeting of the Managers of the Metropolitan Asylums Board, held on Saturday last, Jan. 29th, not without some debate (as will be seen from the report which is printed on page 387), but the matter is not terminated because Mr. WHITE has been compelled to resign his post. There are several considerations that will be forced upon the attention of all thoughtful people by the wording of this report and its very general adoption, while the Managers of the Metropolitan Asylums Board will be fortunate if they escape the accusation of having sacrificed a scapegoat.

Has the punitive action of the Metropolitan Asylums Board been just and adequate? This question sums up the position now that the report of the special committee has been adopted. The Board has punished Mr. WHITE who for sixteen years has been a medical officer under their jurisdiction for errors of judgment and omissions of duty—to use the phraseology of the special report—while expressly stating that he and his assistants "spared no pains and neglected no attention suggested by their experience for the welfare of the patient." The errors of judgment or omissions of duty were various. The first one was held to be that Mr. WHITE expressed no unwillingness to undertake the obstetrical duties imminent upon the unfortunate woman's condition, whereas he had had no obstetrical experience since his career as a student terminated sixteen years ago. To this Mr. WHITE has replied that as a matter of fact he *did* suggest that in the interests of the institution the woman should be sent away for her confinement; and we should like to register a very strong opinion that a qualified medical man is bound to consider himself competent to deal with a case of ordinary and uncomplicated pregnancy, so that unless there were premonitory symptoms presaging a difficult case, we cannot conceive why Mr. WHITE should have supposed that he would be unable to conduct the labour. If there were such symptoms we have seen no allusion made to them. Secondly, Mr. WHITE was adjudged to have failed in his duty by not putting into writing an official record of the case. He did not enter the circumstances in his report to the Managers of the Board, but inasmuch as he related all the facts to the Darenth Committee so that the Chairman of the Darenth Committee and the Clerk to the Asylums Board were consequently enabled to make "minute inquiries into the facts" we cannot see that his lapse from the strict path of duty was very grave, while any lapse that may be held to have occurred must be equally laid to

the charge of others. If Mr. WHITE is to be punished for what can only be technically described as concealment, what should happen to the Darenth Committee who are convicted by the report of the special committee of having "failed to discharge as they ought the duties entrusted to them"? Again, Mr. WHITE is considered by the special committee to be guiltily responsible for the absence of a qualified or experienced nurse to attend the case. To this we have to say that if the resources of the Darenth Imbecile Asylum are not competent to deal with the ordinary emergencies arising from a pregnancy—for, be it remembered, there does not seem to have been any reason to suppose that the pregnancy would be other than an ordinary one—then it is time that the Managers of the Metropolitan Asylums Board should put the institution for whose conduct they are responsible upon a proper nursing basis. The environment of the lying-in bed is not totally different from that of the ordinary sick bed and it is difficult to see why the asylum should not have been able to provide adequate care for this patient if it is properly equipped in other respects. It is well known that a child was born at Leavesden Asylum a few months ago and that no special medical nursing arrangements were then found necessary. The woman was in this latter case pregnant when admitted, so that ample opportunity was given to the Metropolitan Asylums Board and the house committee to take every possible precaution that the patient's condition warranted. Nothing was done. Why, therefore, should Mr. WHITE be held to have erred in judgment or to have committed an omission of duty by following this example? Lastly, Mr. WHITE was mildly censured by the special committee's report because the coroner was not notified of the death, while the fact that no post-mortem examination was made was stated in his disfavour. It is always advisable that there should be an inquest where a death has occurred in a public institution and we think that in this case it was particularly advisable that Mr. WHITE should have made a post-mortem examination (which would certainly have been ordered by the coroner), but to dismiss him from his post after sixteen years of honourable service for two such errors in judgment as these seems to us to be a rigorous punishment that could only be justified by employers whose own record of work performed amounted to infallibility. If the Metropolitan Asylums Board has such a papal reputation as this, no servant can expect to remain in their employ after having been detected of an imprudence; but we are not sure that the Board are wise to make any, even the most indirect, claim to perfection, good as their administrative work is.

The Metropolitan Asylums Board has yet to deal with the circumstances relating to the occurrence of the pregnancy, for the special committee in making the report which has led to the enforced resignation of Mr. WHITE precluded these from their consideration, confining their attention strictly to the episode of the unfortunate woman's confinement and subsequent death. The Board is now holding an inquiry into the earlier history of the case and it behoves the Managers to make this inquiry very rigid, firstly, because it is the side of the affair which most nearly concerns the public weal, and secondly, because by the treatment which they have meted out to Mr. WHITE they have rendered any more affable attitude towards other delinquents impossible in its inconsistency. For these and other reasons no less obvious the inquiry on which the Board is now engaged must be thorough. There must be no concealment, there must be no fear of publicity, there must be no expense spared. If negligence on anyone's part allowed the alleged guilty attendant to obtain access to the female wards the negligent person must be dismissed from the employment of the Board. If uncontrovertible evidence as to the violation of the woman proves to be obtainable, the person who suggested that the guilty man should not be punished because the unsupported word of the imbecile woman would have no weight must be severely reprimanded. Only by such all-round severity can the Board now escape the appearance of having sacrificed Mr. WHITE to save others equally guilty from blame; only by such Draconian methods can it regain the confidence of the public which has been sorely and unduly shaken.

OUR readers will have noticed for some years in the communications of our Correspondent in Berlin frequent reference to the subject of medical chambers and courts of honour in Germany. Apparently in most parts of Germany the members of the profession have the power of electing members to what are called the medical chambers. These chambers discuss subjects of medical interest and are often consulted by the Government on such subjects or on questions of public health, the Government recognising the advantage of the opinion of independent medical men as distinct from that of their own official medical advisers. These medical chambers have besides, and principally, certain powers of a disciplinary kind over their members, but they do not extend very far. They have no punitive authority and can only make themselves felt by depriving any offending practitioners of the right of voting in the election of members of the chambers. Certain members of the chambers are chosen to meet from time to time in Berlin as a Conjoint Committee, and this committee has the privilege of sending delegates to the Local Government Board for the representation of subjects of medical interest to the medical officers. It will be seen from all this that the medical profession in Germany has direct means of making itself felt or of putting itself into official communication with the Government. It has, in fact, a sort of direct representation in the departments of the State concerned with local government. There have been several attempts of late years, as our Correspondent has shown, to develop the importance and authority of these medical chambers. These seem to have been largely approved by the profession. But it is not unanimous as to the points of reform to be insisted on, and it is at variance, as we shall see, with the Government on some questions on which the Government will not give way.

In Saxony it has been proposed that a Bill shall be brought forward enabling the medical chambers or boards to draw up a code of ethics and form a court of honour for each district to judge infractions of the code. The court would have the power of a law court to punish by

simple warning, by reprimand, or by fine from 20 to 1500 marks (£1 to £75). Many medical men doubt whether the creation of courts with such powers would conduce to an improvement in the ethical tone of the profession.

In Prussia a much more stringent Bill has been brought forward. Every provincial board is to elect four of its members, who with a learned judge are to constitute a "court of honour." They will also act as mediators in disputes between medical men. A Government lawyer is to act as Public Prosecutor. The penalties are simple warning, reprimand, or a fine up to £150. A Court of Appeal is, moreover, to be instituted in Berlin, consisting of the Director of the Medical Department of the Home Office as President, three other members of this Department to be elected by the Crown, and three representatives of the medical boards to be elected by their members.

The profession has not, on the whole, taken much interest in the election of members to the medical chambers, but if at the time of any particular election questions affecting medical men are agitating the profession more interest is shown in the election. Thus in 1893 the question of the free choice of medical men by members of clubs gave animation to the contest. And at the time of the later triennial election of 1896 the profession has been excited by the insistence of the Government on certain points that do not commend themselves to medical practitioners. One of the most burning of these points is the exclusion of the medical officers of the army and navy from the jurisdiction of the courts of honour. Upon this the Government will not yield, while the profession is, on the other hand, equally firm in its opinion that standards of honour should be equally binding on all medical men whether engaged in civil or in military work. Another point of difference between the Government and the profession is that the Government—at least in Prussia—wish to extend the authority of their courts to the punishment of other than merely medical misdemeanours in medical men and make them judges of other misconduct. Much objection, too, is taken to the proposal in the Prussian Bill to introduce the Public Prosecutor or other lawyers into what is essentially a medical court. The letter of our Berlin Correspondent of last week showed that these differences of opinion between the Government and the profession are so acute as to endanger the enactment of the Bills that have been brought in. The Minister of Public Instruction has written to the Conjoint Committee of Berlin to remind it that the Government of Prussia brought in this Bill to please the medical profession, and he accompanies the reminder with the remark that laws against unqualified practice so much desired by the medical chambers will not be enacted apart from legislation on ethical misdemeanours. Such laws against unqualified practice have of late years been abrogated and their re-enactment is contemplated. This is a great inducement to the chambers to meet the Government half way and we may hope that the differences will be removed by a little reasonableness on both sides.

The subject is exciting much discussion in both the lay and the medical press of Germany. It is only another proof of the great public importance of the medical profession and of the need of the maintenance in it of a high standard of professional honour. We are of opinion that the profession might concede to the Government the exclusion of the medical officers of the public service from the jurisdiction of the courts. These officers are subject to other discipline and are answerable to other authority than that of the chambers or of the courts contemplated in these Bills. On the other hand, the Government might concede to the medical chambers the exclusively medical constitution of the courts of honour. The profession has its own high code of conduct, and the more it is trusted, the more domestic the court by which such conduct is judged, the better the result is likely to be. We sympathise with the objection to the introduction of the Public Prosecutor or any other lawyer into a medical court. We shall watch this controversy with interest. It is not without its lessons to the profession and the Government of our own country. Our medical corporations may perhaps realise that in a most enlightened country the law gives much recognition, and proposes to give much power, to the medical profession itself; and we may all take a hint and a hope from the point made by the Minister of Public Instruction that legislation against unqualified practice will be enacted *pari passu* with means for better securing the honour of the regular profession.

OF all the evil consequences of fractures of the bones of the limbs none is more common or more painful than the stiffness which is so often met with after the repair of the injury to the bone. This stiffness is due to one or other or to both of two causes—the existence of adhesions between muscles or tendons and the injured bone or the development of adhesions within the affected joints owing to injury to these joints at the time of the fracture. Extra-articular adhesions are the more common, but of the occurrence of intra-articular adhesions as a sequel to fractures close to joints there can be no doubt. All surgeons have recognised the great value of skilled massage—rubbings and movements—in the treatment of this stiffness. Under its influence the fibrous bands seem to melt away and the range of movement daily grows. In severe cases it has to be supplemented by free passive movements under an anæsthetic, but even then the treatment is prolonged and painful and tries both the patience and the endurance of the patient. On the principle that prevention is better than cure surgeons have been slowly feeling their way to the earlier application of massage in the hope that by moving the joints almost from the first adhesions will be prevented from forming and the patient will enjoy a useful and painless limb as well as a strong one when the splints are laid aside. Two illustrations of this practice at once suggest themselves. In all fractures near the elbow-joint it is now a common practice to move the joint gradually more and more freely almost from the outset of the treatment. Again, in the treatment of Colles's fracture of the radius the deserved popularity of Carr's splint is chiefly due to the fact that it affords no hindrance to the daily—or even more frequent—movement of the fingers and thumb of the injured hand. This course of procedure has become more and more popular and trusted.

Some surgeons, however, have gone still further and recommend that massage shall be employed from the very outset and they maintain that thus used it is not only a powerful preventive of adhesions, but that the fractures unite more kindly under its influence, and the troublesome pains so often experienced in the early days after a fracture will subside more quickly than if treated in any other way.

We publish to-day a paper on this subject from the pen of Mr. W. H. BENNETT, and in our Paris letter in THE LANCET of Jan. 8th there was a report of a discussion on this subject at the Academy of Medicine introduced by M. LUCAS-CHAMPIONNIÈRE, who is the chief advocate of this method in France. Some two years ago Mr. NOBLE SMITH called attention to this subject at a meeting of the Medical Society of London. Mr. BENNETT does not go so far as does M. LUCAS-CHAMPIONNIÈRE, for he uses splints to support the broken bone until repair is well advanced, and he recommends the early and systematic employment of massage to allay pain, to hasten repair of the bone, and to secure at once a supple, moveable and useful joint. There is no doubt something to be said for the view which Mr. BENNETT advocates, although some will be inclined to think that massage is advocated with some amount of exaggeration of its value. Certainly movement of an injured part is not necessary for its perfect or rapid repair. Of all the conditions of success in the treatment of fractures none is so important as the perfect correction of displacement of fragments. Unless the structure and outline of the bone are perfectly restored its function is more or less impaired, and we view with suspicion any method of treatment which in any way seems to lessen the importance of this primary consideration. Given perfect correction of displacement it is usually an easy matter to maintain it and then we doubt not that massage practised even quite early will be useful. But if massage is exalted into the chief place in the treatment of fractures and correction of displacement is regarded as of only minor importance we fear its wider employment will be attended with much harm.

Annotations.

"Ne quid nimis."

"UNDESIRABLE INVALIDS BILL."

SUCH is the title of a measure which it is proposed to bring once more before the New Zealand House of Representatives. It was introduced last year and withdrawn, but is now again to be discussed. The principles of the Bill are directed against the landing on the islands of patients afflicted with communicable diseases and stringent measures are to be adopted with regard to those people already in the colony who are similarly afflicted. Foremost amongst such diseases is tuberculosis, more particularly pulmonary tuberculosis. We have frequently drawn attention in our columns to the great endeavours which are now being made to prevent the spread of this malady, but we cannot altogether recommend such extreme precautions as are proposed by this Bill. No phthisical person will be allowed to enter New Zealand. This in itself will be very difficult to enforce. Medical testimony would of course have to be forthcoming as to the diagnosis and many early cases of the disease would probably escape detection whilst, on the other hand, many cases in a state of quiescence or arrest are perfectly harmless to their fellow creatures and it would be very hard on them to forbid their landing. Then it is proposed to deal with those residents who are phthisical. What the exact measures to be adopted are we do not know in detail, but presumably they are those which have been so frequently suggested—namely, notification and elaborate modes of disinfection. The question naturally presents two sides, the inconvenience caused to the sufferers and the protection of the healthy. But if the former is carried to the extremes that are intimated their lives will be almost as bad as those of the lepers, and if every health resort adopted the same plan their lot would be hard indeed. Hitherto, when such a crusade against pulmonary tuberculosis has been adopted it has ended in failure, and we doubt whether New Zealand will be any better off if the Bill becomes law. We would rather urge further sanitary precautions and public tuition in regard to personal conduct than such cogent action as the Bill proposes. If every medical man would undertake to give each phthisical patient who consults him written or printed directions as to the disposal of expectoration, disinfection of handkerchiefs, &c., similar to those given to the patients at our principal chest hospitals, much might be done in a prophylactic direction. But for a colony to forbid phthisical subjects to enter its domains is a proceeding too drastic for the conditions it proposes to deal with.

THE AMENITIES OF CERTAIN CORONERS' COURTS.

AT an inquest held by the Batley coroner on Jan. 25th upon the body of a young man named Greenway, aged twenty years, who had died upon the night of Jan. 23rd, the coroner is reported to have made some very singular remarks as to the conduct of the medical man in charge of the case. According to the report given in the local press Greenway ate some tinned salmon upon the night of Saturday, Jan. 22nd, and was seized with acute abdominal pain. He went to the house of a friend, where he remained until his death, which occurred on the following night, but was attended by a medical man, Mr. Woods. This gentleman very rightly refused to give a certificate until he had made a post-mortem examination, which he did on Monday, Jan. 24th, and then found that the deceased had suffered from a gastric ulcer which had perforated and so caused death. Mr. Woods then told the father, by whose permission the post-mortem examination was made, that he would give a certificate, but the coroner having been informed of the circumstances had ordered an inquest, which was accordingly held. During the course of the examination of the father of the deceased the coroner is reported to have said that "if the doctor knew that some statement had been made about tinned salmon he ought to have had his head shaved. A death had to be inquired into not only for the person who was dead but in the interest of the public to prevent anyone being falsely accused. ..... The doctor had no right to interfere with a body in the custody of the law, and the witness had no right to give the doctor leave to open the body." A police sergeant deposed that before the post-mortem examination he saw the medical man and told him that the facts would be reported to the coroner. On the other hand, Mr. Woods's solicitor wrote on behalf of Mr. Woods saying that that gentleman never saw Sergeant Craven until 6 o'clock on the night of Jan. 24th, two hours after the examination had been made, and that

that was the first intimation he had of the matter being in the hands of the coroner. Why the coroner should have made the offensive remark that is attributed to him—if he did do so—we fail to see. It is true that the deceased mentioned that he had eaten some tinned salmon, but there was a total absence of suspicious circumstances about his repast. Why should not Mr. Woods make a post-mortem examination to find out the cause of death? To our thinking it was the only thing for him to do and made the inquest entirely unnecessary. Also, having held an inquest, why did not the coroner call Mr. Woods to give evidence? This is the sort of episode that is a strong argument in favour of a medical coroner, for a medical coroner would have seen at once that the post-mortem examination had cleared up the whole case. By a striking coincidence an inquest was held on the following day at Attercliffe Common where the proceedings of the coroner were, if he is correctly reported, still more impertinent to the medical profession. A child having died suddenly in bed the medical man gave it as his opinion that the cause of death was phthisis. A midwife, however, who, to quote from the *Sheffield and Rotherham Independent* of Jan. 27th, 1898, "although not holding a diploma, had had eighteen years' experience of her profession, had reason to think that the child had died from convulsions. The coroner said he was inclined to trust a woman of eighteen years' experience in preference to a man who had perhaps had little experience beyond passing an examination. Such a woman knew more than some medical men. Many women did not take the trouble to sit for the certificate, but he should think that a woman of eighteen years' experience could walk through that examination. Under the circumstances he should have little hesitation in advising the jury to record a verdict of Death from convulsions." A verdict was then given in accordance with the coroner's advice and in direct opposition to the only medical evidence submitted to the court.

A CASE OF ACUTE GRAVES'S DISEASE.

IN the last number of *Brain* a very unusual case is described under the above title by Dr. Arthur Foxwell. The patient was a woman, apparently unmarried, aged forty-one years, admitted to hospital on account of weakness, anorexia, and rapid wasting. The family history was good and there was no neurotic tendency to be traced. Her previous health had also been good. The only significant point was the history of a strain while rowing, ten years before her admission. This had given rise at the time to pain in her left side and she had occasionally suffered from this pain ever since. The illness for which she sought admission had commenced six months before with weakness and stiffness in the joints on rising in the morning. Three months later she began to suffer from morning nausea, but without vomiting. About a month after this enlargement of the thyroid was first noticed. Prominence of the eyeballs was also observed at this time, but the patient herself was unaware of it. For a month before admission she had suffered from frequent vomiting and for two weeks she had been unable to take any solid food. She had also been so weak as to be unable to walk and she had perspired profusely whenever she fell asleep. On admission she was found to have slight prominence of the eyes and the left pupil was larger than the right. The thyroid was enlarged, especially the right lobe, over which a systolic murmur was audible. The cardiac impulse was diffuse and there were pulmonary, tricuspid, and mitral systolic murmurs. In the first and second left intercostal spaces there was an area of circumscribed dulness, thought to be due to an enlarged thymus. Pericardial friction was also heard over the sternum between the third and fourth cartilages on this side. There was evidence of slight consolidation at the apex of the right lung. The urine showed no abnormality in either quality or quantity. The history of the case after admission may be briefly recorded. Troublesome sickness made a resort to various modes of artificial feeding necessary, but the patient rapidly wasted, the cough became troublesome, the thirst extreme, and she died exhausted about nine days after her admission. Briefly the symptoms were—(1) the three cardinal symptoms of Graves's disease; (2) enlargement of the thymus; (3) dilatation of the left pupil; (4) evidence of consolidation of the right apex, cough, pyrexia, &c.; and (5) extreme restlessness. At the necropsy the thymus was found to be considerably enlarged superficially, but extremely thin, and there was solidification of part of the apex of the right lung. The heart was not enlarged and there was no pericarditis or valvular disease. There was no marked change in the ganglia of the cervical sympathetic. The brain was slightly more adherent than usual to the skull cap. There was a patch of yellowish fibrous thickening over the foremost part of the vermiform process of the cerebellum, small in extent, but surrounded by a considerable area of thickened pia mater. There was also similar inflammatory sclerosis of the pia covering the floor of the fourth ventricle. There was acute softening of the surface of both optic thalami, excessive vascularity of the surface of the brain, of the internal capsule, and also of the cerebellum and medulla, leading to the occurrence of occasional small hæmorrhage. There were also sclerotic changes involving portions of the tegmen, the pyramids, the gracilis and their nuclei, and the nuclei of the tenth nerves. It is exceedingly difficult, as Dr. Foxwell remarks, to connect those changes with the various symptoms which were present, but it seems certain that the case is not to be regarded as an uncomplicated one of Graves's disease.

IMMUNITY AND LATENCY AFTER OPERATIONS FOR REPUTED CANCER OF THE BREAST.

THE questions upon this subject raised by Mr. Marmaduke Sheild at the last meeting of the Royal Medical and Chirurgical Society are of the highest importance and we trust that at the next meeting, to which the discussion was adjourned, those who are able to speak with authority will give the benefit of their experience. At present there is the widest divergence of opinion on several of the most important points raised by the questions: What is immunity; what is latency; and what is cure? It is greatly to be desired that clear definitions of these terms should be laid down and that they should not be confused under a cloud of words. We understand that the discussion at the next meeting, on Feb. 8th, will be opened by Sir Thomas Smith and that Mr. Howard Marsh and others will take part in it.

SANDWICH-WOMEN.

SOME years ago a good deal of amusement was excited by an advertisement asking for a specified number of bald men, who were to have tattooed upon their heads the name of an article of commerce and then, presumably, to parade the streets so decorated. The idea of course was never put in practice, but owing to a number of newspapers quoting the notice in full the name of the article obtained a wide and harmless publicity. Again, a short time ago the conductors of omnibuses were entrusted with the distribution of sample tins of an article of diet and in this case too some amusement was excited, no particular harm was done, and possibly the advertisers benefited by their ingenuity. It is quite otherwise with the latest development of street *réclame*, which has recently in London substituted young women in a more or less startling costume with printed inscriptions on the front and back of their garments for the sandwich-man, to whom long usage has accustomed us. One of the

new mediums of advertising has already appeared in a police-court, summoned apparently for obstructing the footway because she had not the nerve to plod like the sandwich-man in close proximity to the wheels of passing vehicles, and the fact has caused many to wonder whether the police have not power to put a stop to such exhibitions altogether. The sight of young girls in coloured dressing-gowns and conical hats parading the streets, exchanging not over-refined witticisms with facetious passers-by, can only excite in the decent-minded pity for the victims and a feeling towards those who send them out that can hardly augment the sale of the articles made known by methods so objectionable.

THE INDUCTION OF PREMATURE LABOUR BY MEANS OF GLYCERINE.

DR. HEINRICH SAFT, assistant physician at the Provincial Lying-in-Hospital in Breslau, has published in the *Deutsche Medicinische Wochenschrift* of Jan. 20th an account of a method which he has devised for the induction of premature labour by means of glycerine. After enumerating various other procedures employed for this purpose, such as irrigations of hot water, introduction of bougies, introduction of indiarubber bags full of fluid between the uterus and the fœtal membranes, and the use of the colpeurynter, he says that they may require some days or even a week to produce the effect and that glycerine is the most efficient substance at present known. Glycerine has a strong affinity for water, easily withdrawing it from the animal tissues and in this way irritating the uterine ganglia and nerves so that muscular contractions are produced. Its application is not free from danger, as it has been found to injure the parenchymatous substance of the kidney and to cause hæmoglobinuria, destruction of the red blood corpuscles, shivering fits, and spasmodic dyspnœa. Various modifications have been suggested for the purpose of obviating these dangers. Teilhaber used rods about four inches long, coated with a mixture of glycerine, gelatin, and tricresol. Flatau replaced these rods by elastic bougies. Dr. R. A. Simpson injected three ounces of glycerine into the undilated os uteri of a primipara suffering from eclampsia and subsequently packed the cervix and vagina with plugs soaked with glycerine, but labour did not ensue and another injection of glycerine had to be given. The dilemma is that small quantities of glycerine are useless and large quantities are dangerous. Dr. Saft therefore endeavoured to devise a method by which a large quantity of glycerine might be introduced into the uterus without more than a very small proportion of it being absorbed. In the lying-in hospital with which he is connected Krause's method of inserting bougies was used and if it failed a catheter covered with an empty indiarubber bag was passed between the uterus and the membranes. The bag was fastened to the catheter by thread tied round its mouth and when it was in position it was filled through the catheter with from 400 to 500 c.c. (from 14 oz. to 18 oz.) of a solution of lysol. It occurred to Dr. Saft that if glycerine were substituted for the lysol solution and animal membrane for the indiarubber bag, then the glycerine would be able to exert its power of withdrawing water from the tissues without much of it being absorbed. For the animal membrane he used the swimming bladders of fish. These swimming bladders as prepared for the market (käufliches Fischblasencondom) possess most of the requisite qualities and having selected such as were capable of holding water he succeeded to his satisfaction in inducing labour without any ill-effects to the patients. Diffusion takes place through the swimming bladder, the glycerine withdrawing water from the uterus and fœtal membranes and thereby stimulating the uterine nerves and ganglia so that labour ensues. At the same time some glycerine diffuses outwards through the membrane, but the quantity is too small to be productive of injury. In selecting swimming bladders for this purpose it is necessary to make sure that they will hold water; most of those which are sold will not do so and all such must be rejected. They are then freed from fat by treatment with ether and are afterwards sterilised with an alcoholic solution of corrosive sublimate, the process being similar to the preparation of catgut by Schimmelbusch's method. When the bladder is drawn over the catheter about an inch is left between the bottom of it and the tip of the catheter; the two are then tied together with silk. When the instrument is inserted between the uterus and the fœtal membranes about 100 c.c. (3½ oz.) of glycerine are injected through the catheter, the lower end of which is then closed by means of a piece of indiarubber tube. The bladder must not be pushed high up into the uterus, but must lie directly over the internal os, and the bougie ought to be made of such a length as not to project beyond the vulva. Finally, the vagina is packed with iodoform gauze, which prevents the catheter from slipping out. No ill-effects to either mother or child were observed. Of seven patients treated in this way four had injections of from 40 to 60 c.c. (from 1½ oz. to 2 oz.) of glycerine and the average duration of labour was about 108 hours; the other three had injections of 100 c.c. (3½ oz.) of glycerine and the average duration of labour was about 52 hours. Dr. Saft considers that the result is not due merely to the introduction of a foreign body into the uterus, but that glycerine exerts a specific influence in consequence of its affinity for water. Strong solution of sodium sulphate is another of the fluids which tend to absorb water by osmosis and he proposes to make trial of it in the way above described in order to ascertain if it has the same effect on the uterus as glycerine has. The *Edinburgh Medical Journal* for January contains an account of a case in which three ounces of pure glycerine were injected into the uterus in the fifth month of pregnancy. The patient very soon had an intense rigor lasting more than forty minutes; her face was cyanosed and wore a frightened expression; her pulse was 45. These symptoms passed off, labour pains set in, the ovum was expelled entire, and the patient made an uninterrupted recovery.

THE PREVENTION OF CRUELTY TO CHILDREN.

THE organ of the National Society for the Prevention of Cruelty to Children for the present month contains an appropriate *résumé* of the work done by this society during the past nine years. We are reminded that it was on Feb. 22nd, 1889, that a Bill was first introduced into Parliament for the purpose of ensuring the humane treatment of children. Since that date events have abundantly proved the justice of this measure and the need of its operation. The intervening period has witnessed the rescue from violence, neglect, or other causes of suffering of 321,000 children. The society by whose efforts this result has been attained has in the meantime greatly increased its membership and has widely extended the sphere of its operations. When the Bill referred to was yet in its pre-natal stage the society had established six working centres; it then employed two official inspectors and drew an income from public subscriptions of £2186 a year. It was still quite young and there were many who disputed its right of existence. It has now 700 centres, 150 inspectors, an average income of £60,000 for current expenses, a reserve fund, and it is needless to add that it has also obtained an assured position among the admitted necessities of practical humanity. Not the least significant evidence of its position is found in the regrettable fact that the hands of its workers are full. During the last recorded month (December, 1897,) the society has had to deal with 2219 complaints of cruelty, of which 1912 were well founded. The year which has just

closed has witnessed the climax of a stage of criticism during which the whole administration of the society has been closely scrutinised. It is particularly satisfactory to note that the result of that scrutiny has been on the whole most useful to the society by proving the absence of any grave errors of management, the honesty of its officials, and the general efficiency of its operations. The extension of its field of labour must necessarily bring with it a corresponding increase of responsibility, financial and other, and of the anxieties related thereto. The relief of these is worthy of a liberal effort on the part of the public and we are encouraged as much by a knowledge of the society's work as of its history to believe that this effort can be depended on.

HIPPOPHAGY.

THE following letter has been addressed to a Government department and a copy of it has been sent to us for comment:—

The large number of horses, mules, &c., daily slaughtered renders an inquiry necessary as to what is done with the tongues. If they are prepared for human food the subject may be worth attention, as many, if not most, of the animals, from age and other causes, must be in a diseased and unhealthy condition and if the parts named are smoked and tinned for sale they must be a source of danger to public health, and if so means should be employed for preventing the mischief and if desired I will forward what may be considered an effectual check to such objectionable traffic. If, on the other hand, the authorities are satisfied that they are not prepared and sold as ox tongues I hope you will kindly pardon me for trespassing on your attention.

We do not think that there is much evidence that the tongues of horses which have been killed or taken dead to the knackers' yards are used as human food in England. The eating of horseflesh is permissible under law, and probably where horses are killed of set purpose for human food their tongues are used as well as other parts; but this is a very different matter. With regard to foreign tongues which are imported into this country, some of them may be horseflesh; the probability of this will depend upon the country producing the import, in the most obvious of which oxen happen to be vastly more plentiful than horses.

RETRO-ŒSOPHAGEAL ABSCESS.

THE difficulty of diagnosis in retro-œsophageal abscess is illustrated by the following case published in the *University Medical Magazine* of Philadelphia, January, 1898, by Dr. Crozer Griffith. A pale but fairly nourished child, aged twenty-one months, had suffered from troublesome cough for four months which during the last four weeks had been metallic and croup-like and on exertion had been accompanied by noisy breathing. On several occasions nocturnal croup-like attacks had caused alarm and had necessitated medical aid. Examination showed laboured but not rapid respiration with prolonged expiration. The chest was not noticeably rachitic, but the transverse furrow below the nipples became very marked during inspiration. With each breath the sterno-cleido-mastoid muscles acted and the nares moved. Numerous coarse mucous râles were heard all over the chest and with inspiration noisy rattling of mucus in the bronchial tubes. Cough was very striking and exactly like that of tracheal stenosis from tumour. The patient's condition became worse, tracheotomy was performed without relief, and death followed. A necropsy revealed an abscess behind the trachea and bronchi which reached upwards to the first dorsal vertebra and downwards about two inches below the bifurcation of the trachea. Its posterior wall was formed by carious vertebræ. Before the degree of pressure exerted on the trachea and bronchi could be ascertained the abscess was accidentally punctured. The œsophagus was pushed to the left. There was no abnormal curvature of the spine evident externally. After the necropsy the parents stated that two months previous to the onset of the cough and dyspnœa the child had held his back stiffly, and had walked awkwardly, supporting himself with his hands. From an examination of the literature of retro-œsophageal abscess Dr. Griffith draws the following conclusions. None of the symptoms are characteristic; the diagnosis is often difficult and at times impossible. Dyspnœa is present to some extent in all cases and in most is a prominent and urgent symptom. Cough is nearly always present. Sometimes it is slight, sometimes very brassy, suggesting laryngeal stenosis, sometimes (as in his case) it suggests pressure on the respiratory tract lower down. The voice is seldom affected and then but slightly. Dysphagia is absent (in contrast to retro-pharyngeal abscess), no doubt, because the œsophagus easily changes its position. In two cases it was present, but they prove the rule, for in one the abscess was partly retro-pharyngeal and in the other the dysphagia did not develop until the abscess had ruptured into the œsophagus, and then it was only temporary. Swelling in the neck existed in only three cases. As to the etiology, caries was present in seven cases and was proved to be absent by necropsy in two. Baginski states that in most of his five cases the cause was diphtheritic pharyngitis. The disease is pre-eminently one of early childhood; in only two cases did it occur in adults.

FOR THOSE DISINFECTED.

THE question of what to do with people who live in one or two rooms, when a case of infectious disease has occurred and it is therefore necessary to shut up their homes for disinfecting purposes, has long been a difficult one. The choice of a temporary residence usually lies between the street and the workhouse, but the Vestry of St. George's, Southwark, have now opened a receiving house for the reception of the temporarily homeless ones at the suggestion of Dr. Waldo, the medical officer of health. Families are provided for in the new receiving house for eight hours and find everything at their disposal but food which they have to provide themselves. On arriving at the house they are given baths and their clothes are taken away and disinfected, while ample supplies of clean linen and makeshift garments of the overall nature are lent to them. The plan is a very good one and both Dr. Waldo and the vestry deserve to be praised, the former for having started the idea and the latter for carrying it into execution. By the way, a recollection of previous notes that we have considered it our duty to write upon the occasional relations between Dr. Waldo and the vestry renders the task of associating them together in a common word of praise very pleasant.

EXTRAORDINARY SELF-MUTILATION DURING DELIRIUM TREMENS.

IN the *New York Medical Journal* of Dec. 25th, 1897, Dr. Hendon has published the following case. A well-built, muscular young man was admitted to hospital in the active stage of delirium tremens. He constantly referred to his tongue and complained that it was choking him to death. No heed was given to this statement as it was regarded as a hallucination. He was persuaded to lie down and to be quiet. When seen again in half an hour he was on his knees frantically thrusting first one and then the other hand into his mouth, as if trying to dig out something with his finger-nails. On the floor was a large pool of blood. He was thought to be suffering from hæmatemesis and endeavouring to clear his mouth of clots. His tongue was then found on the floor; it had been torn out by the root. The hæmorrhage was checked by the application of Monsel's solution and the patient's hands were secured in a leather muff, but in about an hour he succeeded

in freeing them, and again clawed at the root of his tongue whilst the blood spurted in jets between his fingers. When Dr. Hendon approached he sprang upon him with the fury of a maniac and forced him to the floor. He endeavoured to get his fingers round Dr. Hendon's throat, who realised that it was a struggle for life, his assistant having fled. Over and over they rolled on the floor bathed in blood, presenting a horrible spectacle. Suddenly the patient's struggles grew weaker and his grasp relaxed. In a few minutes he could be held with one hand, while his hands were again secured with the other. But just as this was completed a convulsive tremor was felt through his body and he died without a struggle. The necropsy revealed the catarrhal condition of the stomach and the congestion of the pia mater usually seen in alcoholic subjects. This extraordinary case conveys the lesson that hallucinations of patients suffering from delirium tremens should not always be disregarded.

THE HEALTH OF MR. GLADSTONE.

WE are glad to be able to announce that Mr. Gladstone's health has decidedly improved during the past two or three days. The neuralgia has been less frequent and persistent and although he had a sharp attack of pain last Sunday night Monday found him quite free. His nights are sometimes disturbed, but he gets a very fair amount of sleep and goes through the day's routine of exercise and meals without giving more anxiety to his friends than is inevitable, taking his age into consideration.

UNIVERSITY COLLEGE HOSPITAL.

UNIVERSITY COLLEGE HOSPITAL still keeps up the custom of holding a festival dinner in aid of its funds, and the gathering which assembled in the Whitehall-rooms of the Hôtel Métropole on Wednesday, Feb. 8th, was a brilliant one in many respects. Among those present were the Duke of Bedford (who presided), the Duchess of Bedford, Lord and Lady Reay, Sir Henry Thompson, Sir John Williams, Mr. and Mrs. Christopher Heath, Mr. and Mrs. Victor Horsley, Mr. John Tweedy, Professor Schäfer, Dr. Poore, Dr. Corfield, Dr. Radcliffe Crocker, Dr. Dudley Buxton, Dr. H. R. Spencer, and Miss Ellaby, M.D. Paris. Special interest attached to this gathering by reason of the fact that the hospital, owing to the irony of circumstances, is suffering from the additions which it has lately received to its coffers by the magnificent gift of £120,000 from Sir J. Blundell Maple to rebuild the hospital and by the special donation from the Prince of Wales's Fund. One of these sums, it must be remembered, was given for the specific purpose of rebuilding the hospital and the other on the condition that twenty-five of the unoccupied beds should be reopened. This, however, does not seem to have been made clear to the benevolent public and further support has been received by the hospital all too slowly. At the present time the financial condition of the institution is such that the committee have been compelled to dispose of £3000 Bank stock, the last fund available for general purposes, to enable them to clear off the debt of £9000 to the bankers and to provide a sum of money to pay some of the most pressing debts to tradesmen. Although twenty-five beds will be opened in consequence of the gift from the Prince of Wales's Fund, twenty-five will still have to remain closed unless some speedy assistance arrives. It is a pity that an institution such as University College Hospital, which treats some 47,000 persons annually, should find itself in these straits, and it would be more than a pity if this state of things were not at once rectified. University College Hospital can show a record of brilliant names on its rolls, having been the School of the Quains, of Cooper and of Liston, and the training ground of Anthony Todd Thompson, Robert Carswell, Robert Grant, Sharpey, Erichsen, and of Reynolds, Sir Richard Quain and Sir William Jenner, and an institution which can show such a record should certainly be one of the first to receive public support. Subscriptions to the amount of £3000 were announced during the evening, but it is to be hoped that a far larger sum than this will soon be forthcoming. At the last festival dinner of the hospital Sir George Faudel-Phillips remarked that the English purse in regard to charity was inexhaustible; we trust that University College Hospital will be able to realise the truth of this remark.

THE HEALTH OF SIR RICHARD QUAIN.

THE good constitution of Sir Richard Quain still continues to serve him and to astound his friends. His state varies, of course, much from time to time, but his power of taking nourishment is little impaired and his interest in public questions, and especially in the affairs of the General Medical Council, is little abated.

AMICABLE SETTLEMENT OF A LIBEL CASE.

THE libel actions brought by Dr. Herbert Collier against the proprietor and publisher of a Yarmouth paper for publishing certain libels upon him have come to a fortunate termination. The defendants undertook to make a full apology, to withdraw every kind of imputation upon Dr. Collier's character, and to pay all costs. This is an eminently satisfactory result and we congratulate Dr. Collier upon his vindication. The honour of a medical man is his most precious possession and anything which casts a slur upon it—as the imputations of the paper would undoubtedly have done in Dr. Collier's case—must damage him to some extent and may do so irretrievably. This circumstance makes it impossible for the medical man to do otherwise than evoke the aid of the law and many is the time that members of our profession have spent a large proportion of their savings in vindicating their honour. Dr. Collier has, however, not had to suffer in this way, for the defendants not only expressed their sincere regret through the medium of counsel in court for the trouble that had been caused by their unguarded conduct, but also agreed to pay all costs incidental to the litigation.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND: THE LECTURES FOR 1898.

THE following arrangements for the lectures at the Royal College of Surgeons of England are announced:—On Monday, Feb. 14th, Wednesday, Feb. 16th, and Friday, Feb. 18th, Dr. T. G. Brodie will deliver the Arris and Gale Lectures, his subject being the Place of Formation and Chemical Properties of the Antitoxins. On Monday, Feb. 21st, Wednesday, Feb. 23rd, and Friday, Feb. 25th, Mr. H. J. Waring will deliver the Erasmus Wilson Lectures on the Pathology and Treatment of those Diseases of the Liver which are Amenable to Direct Surgical Interference. On Monday, Feb. 28th, Wednesday, March 2nd, and Friday, March 4th, Mr. F. G. Parsons, Hunterian Professor of the College, will lecture upon the Muscles of Mammals with special relation to Human Myology. On Monday, March 7th, Wednesday, March 9th, Friday, March 11th, Monday, March 14th, Wednesday, March 16th, and Friday, March 18th, Professor Stewart, F.R.S., Professor of Comparative Anatomy in the College, will lecture on the Vertebral Column and certain recent additions to the Museum of the College, of which he is Conservator. On Monday, March 21st, Wednesday, March 23rd, and Friday, March 25th, Mr. Henry Morris will

lecture upon the Surgery of the Kidney. All the lectures will be delivered at 5 o'clock P.M.

A BRIEF paper in the *Indian Magazine* for January by Mr. Alexander Rogers recalls the fact "that the plague now raging at Bombay and other parts of the Presidency is precisely similar to one that prevailed about 250 years ago at Agra and in the North-West." He quotes an extract from a translation of the Emperor Jehangir's autobiography which he has now in hand, and were the names of persons and places altered we could easily fancy that we were reading an account of the present visitation.

THE Senate of Glasgow University have appointed Professor Michael Foster, secretary of the Royal Society and Professor of Physiology in Cambridge University, to be Gifford Lecturer in the Glasgow University in succession to Professor Bruce. Candidates for the Chair of Forensic Medicine at the University must send their applications to the Secretary for Scotland on or before Feb. 22nd.

A DINNER of the Royal Medical and Chirurgical Society will be held at the Whitehall Rooms of the Hôtel Métropole on Thursday, Feb. 17th, at 7 for 7.30 P.M. Fellows of the society intending to be present should send their names to Dr. Norman Moore and Mr. R. W. Parker, the hon. secretaries.

SIR DYCE DUCKWORTH has been selected to deliver the Harveian Oration before the Royal College of Physicians of London for 1898, and Dr. W. M. Ord is the Bradshaw Lecturer of the College for the year. Dr. G. V. Poore is announced to give the Milroy Lectures for 1899.

THE annual dinner of the West London Medico-Chirurgical Society will be held at the Trocadero Restaurant on Thursday, Feb. 17th, at 7.30 P.M. Members intending to be present should send their names to Dr. McCann, 5, Curzon-street, Mayfair, W.

IN our correspondence columns we publish a letter which we have received from Professor W. K. Roth, acknowledging an address presented to him in his official capacity as general secretary of the International Medical Congress held last year at Moscow.

THE treasurer of Guy's Hospital has received the splendid sum of £20,000 from Mr. Henry Lewis Raphael to be used in building a Nurses' Home, to be known as the "Henrietta Raphael Nurses' Home," in memory of his wife.

IN consequence of the decrease in the contributions to the North-West London Hospital during Jubilee Year the treasurer, Mr. George Herring, has given the large sum of £5000 as a donation to the institution.

THE annual dinner of the Hunterian Society will be held at the First Avenue Hotel on Friday, Feb. 11th, at 6.30 for 7 P.M. Dr. G. E. Herman, the President of the society, will take the chair.

MR. HERBERT ALLINGHAM, F.R.C.S. Eng., has been appointed Surgeon to the Prince of Wales's Household.

MR. PHILIP E. BILL, M.R.C.S. ENG., public vaccinator for the Crickhowell district of the Crickhowell Union, has been awarded the Government grant for efficient vaccination for the tenth time in succession.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE seventh meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday, Jan. 31st. The Right Hon. Viscount Llandaff (the chairman) and all the members were present during the whole of the sitting with the exception of Sir George Barclay Bruce, who came rather late. During the sitting the examination of Sir ALEXANDER BINNIE was concluded, and Mr. HAWARD, Comptroller to the Finance Department of the London County Council, gave evidence with regard to the financial condition of the water companies.

Sir ALEXANDER BINNIE gave some information with regard to the supply of the Serpentine and of the lakes in St. James's-park, but was unable to give the source of that in Regent's-park. The water for the Serpentine is supplied from a deep well situated near the Bayswater-road at the upper end of the Long Water. It flows through the Long Water and the Serpentine and is pumped back and filtered in Kensington-gardens; the only water lost is that which escapes by evaporation. The lakes in St. James's-park are supplied partly by a well and partly by one of the water companies. In answer to the Chairman Sir Alexander Binnie said that two storm-water sewage effluents belonging to the County Council discharged into the Lee near Old Ford and that the river below the entrance of this effluent was more foul than it was above that point.

Mr. POPE, Q.C., on behalf of the London water companies said he wished to understand exactly what Sir Alexander Binnie's ideas were with regard to the purchase of the water companies' undertakings. He understood that the witness was in favour of the purchase by the London County Council of all the water companies, that the property should be administered by the London County Council alone, and that the surrounding districts should not be represented.

Sir ALEXANDER BINNIE replied that those districts should have some representation, but with regard to the method of purchase he thought that a special clause should be introduced and that purchase under the Land Clauses Act would not be satisfactory.

The counsel of the London County Council objected to examination of this kind.

In answer to other questions as to the conclusions to which Sir Alexander Binnie had come Mr. Pope obtained from the witness an admission that in his opinion the agitation on the question by the London County Council would not cease if the Commissioners should decide that it would not be wise for the County Council to be allowed to purchase the water companies.

Sir ALEXANDER BINNIE said that the continuous supply now given by the companies was really due to pressure brought to bear on them by the London County Council. With regard to the amount of water which should be abstracted from the Thames he could not admit that a daily flow of less than 250,000,000 gallons over Teddington Weir was sufficient. It was necessary that that amount should pass down to cleanse the river bed. The fact that much more water than this passed with the ebb and flow of the tide under London Bridge did not affect the question. The conditions existing in the River Mersey were not identical with those which obtained in the Thames at London, and it was of the utmost importance that for the cleansing of the lower reaches of the Thames the amount of water should not be too much reduced. The witness maintained that a storage of 27,000,000,000 gallons was not an excessive estimate to allow for a storage of ninety days. Water taken straight from the Thames and put on filter-beds would soon block them up, and reservoirs were necessary not only for storage but to allow time for sedimentation. If the Welsh scheme were carried out the work done would of course necessarily be unproductive until it was completed.

In answer to Sir John Dorrington Sir ALEXANDER BINNIE stated that he thought it would be safe to rely on a single aqueduct to bring the water from Wales.

Lord ROBERT CECIL, on behalf of the Hertfordshire County Council, asked whether the Lee Conservators had the same powers to protect the Lee that the Thames Conservators

had to protect the Thames and suggested that the statutory provisions affecting the Lee were disregarded.

With regard to the wells in the chalk which belonged to the East London and to the New River Companies Sir ALEXANDER BINNIE said that the only figures he had of the amount of water which they could produce was derived from the report of the water examiner.

Major-General SCOTT, the water examiner, pointed out that his figures were derived from the companies themselves, "as a matter of courtesy."

Sir ALEXANDER BINNIE had learned for the first time that day that the Surrey County Council had passed a resolution in which they decided that they, like the County Council of Middlesex, desired to have matters affecting water-supply left as they were.

Lord ROBERT CECIL said that the people of Hertfordshire thought they had a prior right to their own water.

The CHAIRMAN pointed out that the companies took well water under the same conditions as private individuals took it.

In answer to questions with regard to possible control of the administration of the water companies by the London County Council Sir ALEXANDER BINNIE thought that the companies would object to efficient control because it would be supposed that the County Council wished to depreciate the value of their property.

In answer to the Chairman Sir ALEXANDER BINNIE said that the County Council thought the main pipes should be at the distance of 2 ft. 6 in. from the surface, and the Chairman suggested that it was a chivalrous proceeding for the County Council to first buy the companies' property and then to make regulations against themselves.

On behalf of the Kent Company Mr. LITTLER referred to the Charlton well which Sir Alexander Binnie had stated was given up because of the increase of population around it. Mr. Littler stated that the well was disused because the Metropolitan Board of Works in making excavations for their drainage had conducted a quantity of brackish water to a place situated about eighty feet from the well and therefore had advised the company to give up the well. With regard to the quality of the Kent water Mr. Littler suggested that it contained only a quarter of the amount of organic matter which existed in that supplied to the city of Glasgow and he asked the witness whether he knew that South Staffordshire, York, Portsmouth, Newcastle, and many other important towns were still supplied by private companies and that the Birmingham Corporation had revised and increased their water rates, and whether the amount charged by the Birmingham Corporation was not now greater than that charged by the Kent Company?

The counsel representing the West Middlesex, Chelsea, and Grand Junction Companies reserved their examination.

Major-General SCOTT asked Sir Alexander Binnie if he could submit a plan for the severance of that source of supply which affected Surrey and London. It seemed to him a matter of very great difficulty and complexity, especially in view of the fact that the Surrey County Council wished matters to be left as they are.

The latter part of the sitting was taken up in the examination of Mr. HAWARD, the comptroller of the finance department of the London County Council. The witness put in some tables showing the amount of capital raised, authorised, and expended by the London water companies up to March 31st, 1897, and the amount of capital estimated to have been paid each year in respect of stock taken up at par by shareholders of the companies from 1872 to 1897, and the estimated amount of premium value of such stock. The rest of the time was taken up with details of a complicated character with regard to the financial position of the companies and of the previous action of Parliament in relation to the raising of new capital by the companies.

The CHAIRMAN pointed out that the Commissioners were not appointed to supervise what had been done by Parliament or to blame previous Parliaments for what they had done. For his part he could not see why the companies should consider the interests of the general public in the issue of their shares. Parliament had presumably acted with their eyes open. It was suggested that years ago there was no County Council to open their eyes.

The eighth meeting of the Commissioners was held on Tuesday, Feb. 1st. All the Commissioners were present. The whole of the sitting was occupied in the examination of Mr. Haward and was taken up with the reception of evidence on the financial position of the water companies. Tables were put in—(1) showing how the capital of the London water companies has apparently been raised during the period from 1872 to 1897. (2) Showing the cost of management (excluding law and Parliamentary expenses) in the case of each of the London water companies, worked out per million gallons average daily supply for 1896-97, together with the dividends paid by the companies for that year. (3) Showing the amount claimed by each of the London water companies in 1880 in respect of back dividends and the amount allowed by the late Mr. E. J. Smith. (4) Showing the estimated amount of dividends which the London water companies—excluding the New River Company—could from December, 1896, and in March, 1897, claim to divide on their paid-up capital beyond the maxim or prescribed rates of dividend—(*a*) on the assumed legal position; and (*b*) on the basis of a limitation to six years. (5) Showing the amount of capital of each of the London water companies which is subject to sinking fund, an estimate of the annual payments to the sinking fund, and estimates of the total amount of the sinking fund at future dates. (6) Showing a comparison between the Stock Exchange value on Dec. 31st, 1896, of the debenture, loan, and preference capital of the London water companies and the estimated value of the same if secured on the rates. (7) Showing as on Dec. 31st, 1896, (1) the total nominal capital of the London water companies on the market; (2) the value of such capital (share and loan) at Stock Exchange prices; and (3) the yield per cent. to an investor according to the last year's dividends and interest on and market prices of the stock.

In addition to these tables a number of diagrams were put in showing the average monthly prices of the ordinary stocks of each of the water companies since Jan. 1st, 1873, together with the prices at which it is estimated Consols would have stood if paying the same rates of dividend as the companies. The financial points connected with the matters given in the tables were considered in detail.

The next meeting of the Commissioners will take place on Monday, Feb. 7th.

THE SCANDAL AT THE DARENTH IMBECILE ASYLUM.

A MEETING of the Managers of the Metropolitan Asylums Board was held in the Chamber of the London County Council, Spring-gardens, on Saturday, Jan. 29th, the Chairman, Sir EDWIN GALSWORTHY, presiding.

Among other orders of the day was the report of the General Purposes Committee recommending "(*a*) That for the reasons set forth in the interim report of the General Purposes Sub-committee, dated 20th January, 1898, Dr. A. T. O. White, the acting medical superintendent of the Darenth Adult Asylum, be called upon to resign immediately; (*b*) that the interim report, dated 20th January, 1898, of the Sub-committee *re* patient M. D., lately deceased at the Darenth Adult Asylum, be approved and adopted."

Mr. R. M. HENSLEY (chairman of the committee), in submitting the first paragraph for adoption, regretted having to propose a resolution which meant the absolute resignation of his services to the board of an officer who had been in their employ for sixteen years. The grounds on which the recommendation was made were grave derelictions of ordinary routine duty. Had Mr. White done his duty and reported the case in the usual way the committee would have been compelled to approach the case in a formal manner. Though the case happened just before the recess only a verbal report was made and the doctor was not present at the meeting of the committee. He made no entry in his case-book. Medical evidence showed that it was extremely desirable that a post-mortem examination should have been held, but Mr. White never entertained the idea of holding one. All these facts, however, had nothing whatever to do with the fatal issue of the case.

Colonel WEBB seconded the motion.

Mr. LILE attempted to move as an amendment that paragraph (*b*) of the report be considered before (*a*), but was over-ruled by the chairman.

Mr. MUSPRATT moved as an amendment that Mr. White should revert to his duties as assistant medical officer and cease to act as superintendent. He did not understand the point about Mr. White failing to give written instructions

with regard to the charge of the case. Mr. White was in charge of the case and it was not in the charge of a nurse. That the case had occurred was lamentable but they ought not to allow that Mr. White was responsible. Mr. White did report the matter to the chairman of the committee with the result that a meeting of the committee was specially summoned to consider the matter.

Mr. S OSBORN seconded the amendment. In doing so he remarked that the medical evidence which had been supplied was insufficient. Mr. White had informed the members of the Darenth committee and he (Mr. Osborn) thought there was a reason for the case not being entered on the books. At all events the committee were fully aware of what had taken place and there was no desire to keep anything secret. It did not say much for the Board's arrangements if they were not equal to looking after an ordinary midwifery case. From a legal point of view he (the speaker) did not think an inquest necessary.

The amendment was lost by 33 votes to 6.

Mr. LILE suggested that the report be referred back to the committee and that it should commence at the beginning. He suggested that an attempt was being made to hush up the matter, but he was ruled out of order by the chairman who stated that no such attempt whatever was being made.

The Rev. W. G. POPE desired to move an amendment to the effect that the matter should be referred to the Local Government Board in order that a public inquiry should be held into the whole of the circumstances, but he also was ruled out of order.

The original motion was then carried.

Mr. HENSLEY moved that paragraph (*b*) be adopted. This, he said, practically amounted to a vote of censure upon the committee.

Mr. WELLS seconded the motion.

Brigade-Surgeon-Lieutenant-Colonel MYERS moved an amendment to the effect that the Board should record its opinion that the Darenth committee should not have omitted from its report any portion of the letters of the Commissioners in Lunacy.

This was seconded by Mr. J. WILLMOTT.

Mr. J. LOBB considered that the Board had always been dominated by what he called a policy of hush.

The CHAIRMAN objected to the term "hush" and denied that the Board had such a policy.

After a long discussion in which attempts were made to adjourn the debate the amendment was lost.

Mr. BRASS wished to add after paragraph (*b*) words to the effect that the General Purposes Committee be requested to lay the matter before Sir George Lewis with power to take criminal proceedings against the man whose actions led to the death of the patient.

The CHAIRMAN would not accept this amendment.

Mr. LILE moved that the main question be not put until the next meeting, when the whole report would be before them.

Eventually the original motion was put and carried by 24 votes to 6.

KIMBERLEY SANATORIUM.

THE idea of building a sanatorium at Kimberley for the reception of patients suffering from pulmonary complaints owed its inception, we believe, to the Right Hon. Cecil Rhodes, who three years ago wrote to one of the members representing Kimberley in the Colonial Parliament expressing his desire to establish such an institution. The word sanatorium, however, is in one sense rather a misnomer, for although Mr. Rhodes, as chairman of the De Beers Consolidated Mines, Limited, has subscribed £26,000 towards its building and equipment the house is in reality a magnificent hotel, and in no sense of the word a hospital or convalescent home. There are no official medical or nursing attendants, and the sole object of the building is to afford what is now somewhat colloquially termed "home comforts" for those seeking the climatic advantages of South Africa. As stated in a recent number of the "Union Line" *Gazette*, "the sanatorium, which stands on rising ground between and above the townships of Kimberley and Beaconsfield, with both of which it is connected by a tramway, has not only its own spacious enclosure with well-laid-out garden, tennis-courts, and croquet-grounds, but has in front a private domain of over 150 acres, which guarantees the purity and salubrity of the air." It has all the requirements of a first-class family hotel and there are thirty bedrooms. "The sanitary arrangements have been most carefully considered under medical supervision. Every effort will be made to supply the best food and wines and the service, under skilled management, will be performed by a staff of trained servants specially selected in England." The following physiographical facts are given: height above sea level, 4100 ft.; rainfall 18 in. per annum; mean annual humidity of atmosphere 55° of saturation; mean temperature, October to March (summer), 72°, April to September (winter), 56°. The hours of sunshine during the year are very many.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary quarterly comitia was held on Jan. 27th, the President, Sir S WILKS, Bart., being in the chair.

The PRESIDENT announced that he had nominated Dr. C. T. Williams, Dr. G. V. Poore, and Dr. S. Coupland to be the adjudicators for the Weber-Parkes Prize to be awarded in the year 1900, the subject being the Etiology and Prevention of Human Tuberculosis. The President nominated Sir Dyce Duckworth to be the Harveian Orator for 1898, and Dr. W. M. Ord the Bradshaw Lecturer. He also announced that the Council had nominated Dr. Poore to be the Milroy Lecturer for 1899.

The PRESIDENT referred to the steps that had been taken to promote the introduction of the University of London Commission Bill, and stated that he had on behalf of the College attended a conference with the Senate of the University of London and also a deputation to the President of Council, the Duke of Devonshire. He also stated that together with the President of the College of Surgeons he had addressed a memorial to the Secretary for War in behalf of reform of the Army Medical Department. He read the memorial, which urged the amalgamation of the Army Medical Staff and Medical Staff Corps into an Army Medical Corps with the conferment of military titles upon its members. The President then brought under the notice of the Fellows the proposal to have a portrait of Dr. Munk, the Harveian Librarian, painted for the College.

Dr. T. Beattie, Dr. E. J. Cave, Dr. A. C. Latham, Dr. L. Rogers, and Dr. R. B. Wild were admitted to the Membership of the College.

Licences were granted to 109 successful candidates at the recent examination. Diplomas in Public Health were granted to the thirteen candidates who passed the examination conducted by the two Royal Colleges.

Communications were read from (1) the Secretary of the Royal College of Surgeons; (2) Dr. Bond, the Secretary of the Jenner Society; (3) Dr. Dickinson resigning his seat as Representative of the College on the Governing Body of Mason College, Birmingham, the President nominating Dr. C. T. Williams to the seat thus vacated; (4) the family of the late Professor Heidenhain thanking the College for its vote of condolence; (5) the Westminster Tramways Opposition Committee (referred to the Committee of Management); and (6) the Committee of Delegates of the Medical Schools in respect to a proposed deputation to London Members of Parliament on the University question (referred to the University Committee).

Dr. Pollock, Dr. Corfield, Dr. Galabin, and Dr. G. H. Savage were elected to fill vacancies on the Council caused by the retirement in rotation of Dr. Hensley, Dr. Gervis, Dr. Ord, and Dr. Cavafy.

Reports were presented from the Library Committee, the Committee of Management, the Finance Committee, and the Representative of the College on the General Medical Council.

The annual return by the examiners of the results of the examinations in 1897 was presented.

DAWLISH COTTAGE HOSPITAL.—The annual meeting of the Dawlish Cottage Hospital was held on Jan. 24th. The committee reported that 67 in-patients had been admitted, being an increase of 10 on the preceding year; 134 out-patients had been visited, necessitating 1883 visits; and 139 casualties had been treated. The financial statement showed total receipts of £431, and an expenditure of £395. The need of an operating-room at the hospital was alluded to.

Obituary.

JULES PÉAN.

[FROM OUR PARIS CORRESPONDENT.]

DR. PÉAN, the celebrated surgeon, died on the night of Jan. 29th–30th from pneumonia following influenza for which he had been some two or three days in bed. His death was totally unexpected by the medical fraternity and neither his pupils nor his friends knew that he was ill, and his loss will be very widely felt. Jules Péan was born in 1830 near Châteaudun. He was the son of a miller, a fact he was fond of recalling, and suffered many privations at the beginning of his career, having to support himself in Paris entirely by fees received for coaching his fellow students in anatomy. In 1853 he came out first at the *concours* for the election of resident medical officers at the hospitals. Shortly afterwards he became prosector to the Faculty of Medicine and then surgeon to the hospitals of Paris, where he very rapidly acquired a great reputation for his operative skill. He was one of the first surgeons to perform with success operations on the abdominal cavity, which had been considered up to that time absolutely impossible. His first ovariotomy was done in 1864, at a time when the surgical authorities of the Academy of Medicine declared that to perform this operation was a crime. He performed about this time the first splenectomy ever done in France. In addition he made many discoveries in the domain of operative surgery such as vaginal hysterectomy, the method of *morcellement* for the extirpation of large tumours, prophylactic clamping of vessels, and excision of the larynx, all of which are associated with his name. Péan's operation, that is to say, the extirpation of the entire uterus by *morcellement* through the vagina in cases of pelvic suppuration, marks a red-letter day in the history of surgery even outside France. His method of preventing hæmorrhage by clamps was the discovery of which he was most jealous. Some ten years ago he had an animated discussion with Verneuil, who disputed with him the honour of the invention. During their long controversy it came out that the honour of the invention of the original clamp called after Péan's name belonged to the instrument maker Charrière, but that Péan had really been the first to apply it systematically in surgical practice. In the latter days of his life Péan also had a controversy with his old pupil Doyen as to which of them had the priority in the invention of vaginal hysterectomy in cases of pelvic suppuration. The last subject that he studied was that of excision of the thyroid body as well as a method of supplying the missing parts of bones, or even entire bones, by stumps of "ébolite" inserted into the periosteum. For twenty years he was surgeon to the St. Louis Hospital, where his operations were always followed with interest by a crowd of onlookers (*assistants*) from all parts of the world. The clinical lecture which he delivered upon these occasions was always highly appreciated. An accomplished orator, with a full and finished style, Péan expressed himself with a kind of geniality which gave point to the provincial accent which he never lost. Quick to seize the salient points of any question with a comprehensive glance, not only was he an operator of the very first class, but an unrivalled clinician. He left his post at the St. Louis Hospital in 1892 on account of his having reached the limit of age, but finding himself unable to give up the exercise of his art he built himself a private hospital called the International Hospital, where his following of pupils and patients accompanied him. His principal publications, in addition to numerous papers upon various subjects communicated to the learned societies, consist of eight volumes of his "Lectures on Clinical Surgery," four of which volumes are taken up with the diagnosis and treatment of pelvic tumours. He had been a member of the Academy of Medicine since 1887 and was nominated Commander of the Legion of Honour at the time of his retirement.

M. PÉAN AT FORTY-SEVEN YEARS OF AGE.

Dr. James Murphy, of Sunderland, sends us the following personal reminiscences: "It is with the most profound regret that I have heard of the death of my friend and master, the great Péan, at the age of sixty-seven, from pneumonia When I went to Péan first I had the good fortune to carry with me a letter of introduction from Lord Lister and to this I am indebted for a most cordial reception and to having had the privilege while I was in Paris of assisting Péan in most of his operations both in hospital and in private practice. His was the most striking personality I have ever seen—a low-sized, powerfully-built man, with high receding forehead, dark piercing eyes, sharply chiseled features, Jewish-looking nose, and a cold, determined-looking mouth, with lips and chin clean shaved and large whiskers turning grey—a handsome face withal and one in which courage, determination, and an utter disregard for consequences were markedly expressed. I shall never forget the first time I saw him; it was at l'Hôpital de St. Louis on a Saturday at 9 30 A.M. I was shown into a large theatre where some 200 surgeons and students of various nationalities of both sexes and of ages varying from twenty to seventy were assembled. The jargon of the different languages reminded one forcibly of Babel's Tower, but suddenly all was hushed, everyone rose, and then, amid a deafening stamping of feet, clapping of hands, and round after round of applause, a door opened and in an instant Péan was before us. He was, as usual at operations, dressed as for a dinner party, wearing a cut-away coat bearing his ribbon of the Legion of Honour, white open waistcoat, black trousers, and patent leather boots. He bowed to his audience, who then sat down, and he proceeded to do his operations with a rapidity and manual dexterity that I have never seen the equal of. He had two regular assistants, one M. Collin and the other whose name I forget, and in addition some five or six favourite pupils or friends, each of whom had to do something; and whether, as would often happen, one of his assistants happened to be an Egyptian, a Russian, an Austrian, or even an Irishman, he spoke in such forcible French there was no mistaking what he wanted you to do, and you did it. He spoke the whole time during his operation, generally, as I have said, *forcibly*, but sometimes when matters seemed to us to be getting serious he would take up a forceps, pull a hair from M. Collin's whiskers, and say, 'Voilà la tumeur' steady us, not speak for a time, and then complete the operation. I never saw him make a mistake. In doing an abdominal section he would sit between the patient's legs, make an incision from the diaphragm to the pubis—not *cap de pied* as it used to be called—and rapidly cut down on the peritoneum, and there one could see the tumour and the intestines through the peritoneum. I admired most the extraordinary skill with which he would remove a large uterine fibroid, per vaginam, *par morcellement*; but equally brilliant were his hysterectomies for malignant disease, where he would often leave as many as thirty pairs of forceps in the vagina. In all operations he was *facile princeps* and neither his brain nor his hand ever hesitated. Most of his work was abdominal, but he was an all-round

operating surgeon and I saw him do three or four laryngectomies, one of which, Bertrand, I saw alive three years after operation. Sometimes he was criticised by his opponents, but he used to simply laugh at them, and as far as I could judge he never worried about their hostile criticism, and on the Thursday evenings he would often invite me to his box at the opera where he and Madame Péan generally had a party of twenty. His private operations he generally did in the convent in Rue de la Santé, and when he had to retire, owing to the age clause, from St. Louis Hospital he founded l'Hôpital International. It used to be said at one time that his income was £40,000 a year, and the late Sir Spencer Wells told me he knew of a case in which an English countess paid him £1600 for an amputation of the breast. He was a pupil of Nélaton, and for manual dexterity he was the greatest surgeon of the century."

JOHN STEWART, R.N., M.D. ST. AND., L.R.C.S. EDIN.

THE death has been announced of Dr. John Stewart, of Perth, at the advanced age of eighty-nine years. After having taken the degree of L.R.C.S. Edin. in 1833 and the diploma of M.D. at St. Andrews University in 1835 he entered the Royal Navy and became Staff-Surgeon in 1841. He saw a great deal of active service, serving in the *Bellerophon* in the Mediterranean and taking part in the bombardment of St. Jean d'Acre and Beyrout. He also accompanied the expedition to Nankin in the flagship *Cornwallis* during the first China war. He was present during the war in New Zealand in the *Osprey*, where he encountered many hardships and perils, his vessel being ultimately wrecked. Dr. Stewart was also at the bombardment of Sebastopol. He was a member of the Imperial Order of the Medjidieh and received medals for Syria, China, and the Crimea, and also a Greenwich Hospital pension. He was the author of several small medical works. He was a staunch advocate of total abstinence, which he himself practised through life, and was universally respected in his native town, Perth, in which cemetery he was buried last week, the funeral being strictly private in accordance with his expressed wish, only near relatives and intimate friends being present, the chief mourner being his nephew, Lieutenant-Colonel Duncan Menzies, of Blarich, commanding the 1st Sutherland Highland Rifle Volunteers.

JOHN STEELE-PERKINS, F.R.C.S. ENG., L.S.A.

MR. JOHN STEELE-PERKINS died at Exeter on Jan. 28th in his ninety-first year. He was the oldest surgeon in that city and probably in the west of England. The deceased received his medical education at Guy's and St. Thomas's Hospitals, taking the L.S.A. in 1828 and the M.R.C.S. Eng. in 1831. In 1875 he received the F.R.C.S. Eng. Mr. Steele-Perkins was highly esteemed in Exeter; he had held the appointment of medical officer of health and was for fifty years surgeon to the West of England Institution for the Blind. He took a great interest in the volunteer movement, being brigade-surgeon of the Devon Volunteer Artillery. Although Mr. Steele-Perkins had reached such an advanced age he remained in possession of his faculties almost to the last and only took to his bed two weeks previously to his death.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. F. Bini, Emeritus Professor of Psychiatry in the Florence Medical School.—Dr. S. A. Rogers, Professor of Anatomy in Memphis Hospital Medical College, U.S.A.

TYPHOID FEVER AT ILLOGAN, CORNWALL.—At a recent meeting of the Redruth Rural District Council it was stated that Dr. Bruce Low, who had inspected the district to ascertain the cause of the recent outbreak of typhoid fever, was of opinion that the water-supply was the primary cause of the epidemic, but the dangerous water had been cut off. Dr. A. E. Permewan, J.P., the medical officer of health, joined Dr. Bruce Low in recommending that the accumulated refuse in the crowded parts of the district should at once be cleared away under the supervision of the council's inspectors and after considerable discussion this was agreed to. Up to the present there have been 33 cases of typhoid fever in Illogan with 4 deaths.

THE DANGER OF MAKING A PUBLIC SHOW OF INCUBATORS FOR BABIES.

THE introduction of incubators for babies into this country has been favourably noticed in THE LANCET. The incubators which we described were exhibited at Earl's-court.[1] They were manufactured by scientific instrument makers of high reputation who provide many of the apparatus used in Professor Koch's laboratory. Skilled attendants were employed who had been specially trained not merely in the care of babies and the management of incubators but more particularly in the nursing of prematurely born or especially debilitated infants. Again, though the Victorian Era Exhibition was looked upon as a mere pleasure resort by many it was also a serious exhibition where objects of art of great value were collected side by side with scientific inventions bearing on medical and public health questions. Thus surrounded there was nothing derogatory to the dignity of the healing art in the exhibition of incubators at Earl's-court. Also a healthy site was chosen in the broadest part of the gardens where there was plenty of fresh air. The incubators were scientifically ventilated and only received the air taken from the outside. This exhibition had an extraordinary success. On one occasion there were no less than 3600 visitors in a single day. This success, however, has not proved an unmixed blessing. It attracted the attention and cupidity of public showmen, and all sorts of persons, who had no knowledge of the intricate scientific problem involved, started to organise baby incubator shows just as they might have exhibited marionettes, fat women, or any sort of catch-penny monstrosity. It is therefore necessary that we should at once protest that human infirmities do not constitute a fit subject for the public showman to exploit. Incubators are only useful for prematurely-born children, and especially for infants whose lives cannot possibly be saved in any other way. Therefore constant medical supervision and the presence day and night of nurses trained in the use of incubators and of wet-nurses is indispensable. To organise all this in a satisfactory manner necessitates a considerable outlay and cannot be lightly undertaken by inexperienced persons. An incubator show, if such there must be, should correspond in every respect to a hospital ward. Now, at the World's Fair held at the Agricultural Hall, Islington, there is an incubator show where the charge for admittance is only 2*d*. We fail to see how this small sum can cover the cost of properly trained attendants and of wet-nurses. On visiting this exhibition we were informed that the infants were fed by their mothers—but how can the mothers attend during the whole of the night at the Agricultural Hall and where is their sleeping accommodation? Then, again, the incubators do not derive their air-supply from without. The infants breathe the atmosphere of the interior of the Agricultural Hall, where, apart from the numerous visitors, the whole of Wombwell's menagerie is kept. Just opposite the incubators there are some leopards and everyone is familiar with the obnoxious odour that arises from the cages in which such animals are incarcerated. There is a similar exhibit at the Royal Aquarium, and we cannot think that the dust of bicycle racing, the smoking of the men, and the exhalations from the crowd of people who visit that resort are likely to constitute an atmosphere suitable for prematurely born infants. Of the thousands who daily flock to these two buildings, how many convey pathogenic germs which may enter the incubators since they are not ventilated from without? Then what connexion can there be between the style of the public or of the entertainments to be seen at these places and a purely medical scientific question? Is it in keeping with the dignity of science that incubators and living babies should be exhibited amidst the aunt-sallies the merry-go-rounds, the five-legged mule, the wild animals, the clowns, penny peep-shows, and amidst the glare and noise of a vulgar fair? At Barnum and Bailey's Show also there is a baby incubator show where, however, the air is brought in from without; but, again, what connexion is there between this serious matter of saving human life and the bearded woman, the dog-faced man, the elephants, the performing horses and pigs, and the clowns and the

[1] See THE LANCET, May 29th, 1897.

acrobats that constitute the chief attraction to Olympia? But if music-hall proprietors, caterers for refreshments at exhibitions, and public showmen generally who have no sort of scientific training are going to start baby incubator shows in all parts of the country the question arises whether the attention of the sanitary authorities should not be directed to the dangers that may result. It is easy to foresee what is likely to happen. The most obvious way to avoid all difficulties is to obtain the loan of fully developed and healthy babies. The general public would scarcely detect this fraud, and these shows might easily degenerate into a disguised form of baby farming. The sanitary authorities should be particular in inquiring whether there is a proper supply of healthy wet-nurses. Under ordinary circumstances there should be not less than one wet-nurse for every two infants. It should be ascertained whether these nurses sleep on the premises and are awakened every three hours to feed the children. If no efficient check be applied bogus shows will probably be organised, then the mothers will be made to go and feed the children in the daytime and carry them home at night. Even an ordinary infant could not safely stand such a transition. If, however, the infant is really prematurely born it would be little short of homicide to remove it from a warm incubator and carry it home at night through the possibly cold, foggy streets. We are all the more anxious that these incubator shows should be energetically dealt with and rigorously suppressed as the experience acquired on the continent, and notably at the Paris maternity, clearly indicates that incubators when managed by properly qualified persons are instrumental in saving many lives.

LOCAL GOVERNMENT BOARD INQUIRY INTO THE MAIDSTONE EPIDEMIC.

THE Local Government Board inquiry into the recent outbreak of typhoid fever at Maidstone was opened at the Sessions House, Maidstone, on Monday, Jan. 31st. Mr. J. S. Davy, Mr. G. W. Willcocks, and Dr. Theodore Thomson were the Commissioners appointed by the Board; Mr. J. F. Parker and Mr. Lance Monckton, deputy town clerk, appeared for the Maidstone District Council; Mr. Dickens, Q.C., and Mr. Hohler for the Maidstone Water Company; Mr. Talbot for the Rural District Council; Mr. J. Brennan for the Maidstone Ratepayers' Association; and Mr. Howlett for the County Lunatic Asylum at Barming. It was explained by Mr. J. F. Parker that he appeared for the Maidstone authorities as they had no power to engage counsel under the Public Health Act without the consent of the Local Government Board. Application had been made, but the Local Government Board declined to sanction the expenditure.

Mr. Percy Adams, M.R.C.S. Eng., D.P.H., was the first witness called. Examined by Mr. J. F. Parker he said that while acting as deputy for his father in August and September of last year he was struck by the number of deaths from diarrhœa in the registrar's returns and he thought it was advisable to issue a public notice warning the people to boil their water and take other precautions. This notice was issued on Sept. 15th. On the same day he saw Dr. Washbourn, of Guy's Hospital, with a view to obtaining his assistance. By Sept. 16th 38 cases had been notified and their distribution excluded the idea of a contaminated milk-supply, but suspicion attached in his mind to some mineral waters made in the town with Farleigh water. He called on the water company on Sept. 18th and received every assistance from them. On the 19th he visited the sources of the Farleigh water-supply. He described the condition of things at Tutsham where between 250 and 350 hop-pickers had been encamped. The Tutsham water was cut off on Sept. 19th when the epidemic was at its height. The chief incidence was felt from Sept. 19th to 27th, after which it declined. The general cause of the outbreak, in his opinion, was the Farleigh section of the Maidstone water-supply.

In cross-examination by Mr. Talbot and Mr. Dickens, Q.C., witness stated that the filter-beds were not habitually in use. Properly constructed and kept in order filter-beds were an efficient protection against fæcal pollution. In the Farleigh area there were many houses provided with privies and water-closets without water. Some of the drains are flushed by hand only. There might be 4000 unflushed house drains in Maidstone; and those in the Farleigh area being on higher ground would be more exposed to sewer gas rising if it were not for the trapping. As a rule the house drains were trapped. A case of typhoid fever was notified in the "special area" on July 6th before the Farleigh water was turned on there and another case was notified on Aug. 20th, but not in the special area. A third case occurred in the rural district on Sept. 4th at a house supplied with Farleigh water. The first case at Barming Asylum occurred on Sept. 10th. The diarrhœa of which he had spoken commenced in July.

Re-examined by Mr. Parker Mr. Percy Adams said at Tutsham he found that the catch-pit of the orchard spring was sealed down with cement, but at Ewell the same care was not taken and two dead rabbits were taken out of the centre catch-pit. The fever had exercised no selective action as between rich and poor. He attributed the secondary cases in part to want of care in home nursing and neglect of precautions.

Mr. Matthew Adams, F.R.C.S. Eng., was the next witness. Examined by Mr. Parker he said his annual report for 1896 showed that the town was generally very healthy and suffered very little from typhoid fever and diarrhœa. He had prepared tables showing the death-rates from typhoid fever in England and Wales, Kent, and Maidstone respectively for a series of years. The figures for Maidstone were 121 per 1,000 000, against 179 for England and 180 for Kent. In conjunction with Dr. Washbourn he prepared an interim report on the water, which was presented to the Sanitary Committee on Sept. 27th, 1897. In his opinion specific pollution of the Farleigh water was the cause of the epidemic. At the beginning of the outbreak the fever hospital was fully occupied with diphtheria and scarlet fever patients, but no time whatever was lost in providing for the emergency. A nursing staff was obtained and a public laundry was erected. After the middle of October he regarded the cases subsequently occurring as due to secondary infection. In that connexion he had drawn attention to carelessness on the part of milk-dealers. In one case he found milk-cans on premises where the fever was present so placed that clothes which had been roughly washed after being exposed to contamination by typhoid material might drip into the cans.

Mr. Adams, continuing his evidence on Tuesday, said that he had repeatedly drawn attention to the insanitary condition of house drainage in Maidstone. As a regular part of his duty his reports had been sent to the Local Government Board.

A question here arose as to the propriety of calling Dr. Washbourn, who made a joint report with Mr. Adams on the water. It was contended by the Town Council that as the Local Government Board had refused to sanction the payment of expenses incurred by expert evidence out of the rates this witness could not be called.

Mr. J. S. Davy said that the attendance of Dr. Washbourn was very desirable and he would take the personal responsibility of any costs that might be incurred.

Mr. F. R. Parker pointed out that the joint report of Dr. Washbourn and Mr. Adams condemned the spring at Tutsham-in-Fields on account of the excessive number of bacteria present, including bacillus coli.

Mr. Adams, continuing, submitted figures from which he drew the inference that the Farleigh area people were attacked through habitually drinking polluted water and the people in the other areas through casually drinking it. He also submitted diagrams which showed that the great mass of the disease occurred before the influence of the Tutsham springs was removed. A marked fall occurred fourteen days after that water was excluded and a further fall fourteen days after the whole of the Farleigh supply had been cut off. From a diagram showing the rainfall and the level of the subsoil water for every day in the year he showed a remarkable correspondence between the outbreak and the movement of the subsoil water. He was quite satisfied that the cause of the epidemic was pollution of the Farleigh branch of the company's water-supply with the specific organism of typhoid fever, and with regard to any particular source the evidence bore heavily against Tutsham-in-Fields. Other sources, however, might be involved.

Cross-examined by Mr. Dickens, Q.C., he certainly did not think the state of the drains was the cause of the epidemic.

Mr. Adams concluded his evidence on Wednesday. Dr. Washbourn and Dr. Sims Woodhead were examined, and

Mr. T. F. Bunting, the borough surveyor, was giving evidence when the inquiry was adjourned.

A *résumé* of the joint report of Mr. Adams and Dr. Washbourn on the Chemical and Bacteriological Analyses of the Farleigh Water-supply will be found in a leading article in THE LANCET of Jan. 8th, page 110.

ARMY MEDICAL SCHOOL, NETLEY.

THE seventy-fifth session of the Army Medical School was brought to a close on Jan. 31st when the prizes were distributed by General Sir Henry W. Norman, G C B, G C M G., C.I.E., in the presence of the military staff of the Royal Victoria Hospital and a large gathering of visitors. Among those present were the Director-General A.M D. (Surgeon-Major-General Jameson, C.B.); Inspector General Turnbull, R.N., of Haslar Hospital; Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I.; Dr. Frederick Roberts, of University College Hospital; Deputy-Surgeon-General Cayley, I.M S.; and Surgeon-Colonel Martin.

Professor J. Lane Notter, M.D., read the report, which showed that thirty-five out of thirty-six surgeons on probation had proved themselves fit to receive Her Majesty's commission, that the conduct of the young officers while passing through the school had been excellent, and that there had been a good tone throughout the school. The following is a list showing the successful candidates for the two services. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

ARMY MEDICAL STAFF.

	Combined marks.		Combined marks.
*H. O. B. Browne-Mason	5322	A. H. O. Young	3996
†F. S. Penny	5099	E. A. Bourke	3896
B. Watts	4756	M. M. Lowsley	3597
H. G. Martin	4519	A. C. Lupton	3521
J. G. Berne	4241	G. B. Carter	3497
F. F. Carroll	4123	N. H. Ross	3493
J. D. G. Macpherson ...	4069	P. H. Collingwood ...	3120
W. P. Gwynn...	4055	C. J. O'Gorman	3796
S. de C. O'Grady	4021		

* Gained the Maclean Prize for Clinical and Ward Work.
† Gained the Pathology and Parkes Memorial Bronze Medal.

INDIAN MEDICAL SERVICE.

	Combined marks.		Combined marks.
*T. H. Delany	5754	S. Hunt	4844
†J. W. F. Ralt	5619	A. G. Sargent	4784
S. R. Douglas	5466	W. H. Cox...	4779
‡E. J. O'Meara	5392	De V. Condon	4740
§G. Tate	5272	H. A. J. Gidney	4641
R. F. Baird	5050	H. Kirkpatrick	4619
A. T. Gage	4892	F. D. S. Fayrer	4432
G. C. Laing	4857	P. H. Chitale	4421
G. MacPherson	4851	W. Lethbridge...	4115

* Gained the Pathology Prize and Herbert Prize.
† Gained the Montefiore Medal and Prize of 20 guineas and the de Chaumont Prize in Hygiene.
‡ Gained the Martin Memorial Gold Medal.
§ Gained the second Montefiore Prize in Surgery.

Sir HENRY NORMAN distributed the prizes and, addressing the Director-General and young officers, said that he trusted that he should not be considered irregular if before saying anything about the present occasion he expressed deep regret at the death since the termination of the last session of the school of the late Director-General of the Army Medical Department (Sir Wm. Mackinnon), who during a long and distinguished career gained the confidence and esteem of all with whom he was brought in contact in every position he held, from the time he was assistant surgeon in the 42nd Highlanders (Black Watch) during the Crimea until he became Director-General. His services included a time during which he was Assistant Professor in the Army Medical School. Personally he had known Sir W. Mackinnon over forty years and had received valuable assistance at his hands, as he had been attended by him not only in sickness but also on the field of action under fire. He was sure that the example of Sir Wm. Mackinnon would not be thrown away. He hoped also to be allowed to express the pleasure he felt at seeing his old friend Sir Joseph Fayrer, to whom he owed many obligations, especially that of being pulled through a severe attack of typhoid fever some thirty years ago. About seventeen years since he (the speaker) presented the prizes to the surgeons on probation at Netley, and he had very great pleasure in accepting the invitation to come to Netley on the present occasion; for reasons known to many of those present Netley and everything connected with it must have great interest for him. He had been much pleased at hearing such a satisfactory report of the result of the session, and it reflected great credit on the officers now leaving that they had taken such full advantage of the able instruction they had received from the learned professors in the school. He was sure that they would all take away with them a knowledge of the great benefits of the institution, and he sincerely trusted that they would gradually acquire further knowledge and the fruit of experience. They must recollect that the science and art they practised was not stationary. There was something always being discovered, and they would have ample opportunity of bringing this knowledge into play in the exercise of their duty in alleviating pain, caring for the sick, and saving life. No doubt many of those present thought that medical and surgical science had attained to great perfection, but he had no doubt that a great amount of discovery would yet be made, and during their careers. It was impossible for a medical officer to go through a course of service without seeing occasion to modify his opinions. In the treatment of cases a most remarkable instance of change and improvement had been found in a country where it might have been little expected. In 1877 it fell to his lot to be in Japan accompanied by Dr. Smith, who was then Principal of the Calcutta Medical College and who had been a comrade of his years before. While there a steamer came in full of wounded men, and his friend Dr. Smith wanted to see the medical arrangements. Now there was a great difficulty in getting into the hospital on account of the objection to foreigners, but they persevered and were taken round by a Japanese surgeon in uniform. Dr. Smith had had plenty of experience during the Indian Mutiny. He found the Japanese hospital in most perfect order—having been just organised—yet in that country twenty five years ago European science was unknown. He was told by Dr. Smith that the latest improvements in surgery known in Europe or America were being carried out, and also that limbs and lives had been saved which but a few years before might not have been saved in our own field hospitals. He congratulated the young officers on having passed the examination with great credit. In future they would not only have opportunities of alleviating suffering and doing much good, but also chances of seeing many lands, experiencing adventures which are so dear to most Britons, and many of them, no doubt, would see field service. They had read or heard of the deeds done by many medical officers in the, he was going to say late, rising on the Indian Frontier, but, unhappily, he could not say late, because that day he had seen that a large number of officers and men had been killed in the Khyber, and there might be more opportunity for service yet. When they saw the full accounts of these operations, which had not been received yet, he had no doubt they would find that many medical officers had distinguished themselves by devotion to duty under fire. He felt sure that those he was addressing would follow in their predecessors' footsteps, and whether employed in peace or war they would render good service. He had now only to wish them all success in their careers, much happiness in their private lives, and at the end of their service a happy and honourable retirement.

Sir JOSEPH FAYRER on being asked to address the young officers said that he had suddenly been called upon to perform an agreeable duty—to offer to them hearty congratulations on the success they had achieved. They had all won prizes because they had all gained their commissions. It was more than fifty years since he had occupied the same position as they did to-day and he need not say how great were their advantages compared with his. He knew no young men who set out in life better prepared than they were, and whichever service they belonged to they should take advantage of it and ever be ready to learn. The great country of India, to which many, nay all, of them in time were going and in which they were all so interested, had been suffering from plague, disease, famine, war, murder, and sedition. He hoped that under the strong administration of a wise Government this combination of troubles might be recovered from, and that those whom he was addressing might aid with their skill to provide against the repetition of such troubles

plague, famine, and its attendant diseases. As to the prospective conditions of the Services it was idle to contend that there was not a great amount of discontent and he very much sympathised with them, but they should never allow discontent to interfere with the steady and loyal performance of their duty. His own conception was that in the course of time all would come right. A good deal had already been done, but he ventured to say that a good deal was still required before the medical services were placed on a proper basis. He trusted that they might come back in the future with honours added to their names and much prosperity.

The DIRECTOR-GENERAL, after congratulating the young officers, proposed a vote of thanks to Sir Henry Norman. He said they were much indebted to him for his visit to Netley, but their obligation to him extended very much further back, because some years ago he had given to them his daughter to be their lady superintendent of nurses, and the high estimation in which the army nursing service was held was due in a great measure to her precept and example.

The proceedings were brought to a close by a few kind and well-chosen words by Surgeon-Major-General NASH, P.M.O. at Netley.

The company was subsequently entertained at luncheon by the officers of the Army Medical Staff.

JERRY-BUILDING AT BELFAST.

(FROM OUR SPECIAL COMMISSIONER.)

WHATEVER may be the defects of the water-supply, the sewers, the soil, the conflict of authorities, and the feebleness of sanitary control, there is not the slightest doubt that the greatest sources of evils in Belfast have been, and still are, the jerry-builder, and the condition of the slum property. The mill owners certainly compromise the health of the city by the way they pollute the streams and object to such measures being taken as would prevent floods. But, on the other hand, they have created industries on which the prosperity of the town depends. The religious warfare which divides the population of Belfast has left the door wide open to all manner of abuses. The energy of the people has been wasted in carrying Protestant candidates against Roman Catholic candidates, and Roman Catholic candidates against Protestants.

The rapid increase of population, now amounting to something like 10,000 new inhabitants per annum, has of course created a great demand for more and more houses and speculative house-builders have been able to reap a golden harvest. Not only have the Irish migrated from all parts of Ireland to Belfast but a great many Scotch and English families have found it to their advantage to settle in this town. Various new industries which have sprung into existence in other towns have also caused a sudden increase of population. For instance, there is the bicycle trade in Coventry where houses cannot be built fast enough and where it is now almost impossible for a workman to find lodgings. But the bicycle trade affords employment only to men, while the peculiarity of Belfast is the facility with which all-round employment can be obtained for an entire family. In other towns the men may earn high wages but there is no work for their families. At Belfast the wages for adult males are not particularly high but there are a number of light trades, such as the making of small card-board boxes, in which the women and even the children can readily obtain employment. Thus it is the family as a whole which makes the larger income and not the principal bread winner. Then, and in spite of bad trade, the factories are increasing in size. Belfast has suffered less than other towns from commercial depression. New factories are in course of erection and new wings are added to old factories, hence even English families are migrating to Belfast in the hope of bettering their position.

Though Belfast is a modern town, still some quarters are comparatively old. Here there is more excuse for the defective condition of the houses; but how can such places be condemned and pulled down when the erection of modern houses has been sanctioned that present similar sanitary defects. Before, however, describing the new I will attempt to depict some portion of the older Smithfield district. Turning into a small side street that gives on to the broad expanse of College-square a few steps suffice to produce a sinister contrast. Instead of large and prosperous houses glimmering in the winter sunlight which reaches them freely after passing over a noble stretch of open ground we find small black streets with dreary rows of dirty cottages, where the scattered rays of the winter sun cannot reflect their brightness from the grimy walls. Here it seemed as if the sun had ceased to shine, though but a moment ago its rays had appeared bright and cheerful, playing among the dewdrops that still hung to the trees in College-square. In spite of the cold and semi-frozen mud bare-footed children were loitering about in the streets. Through half-opened doors older people might be seen brooding gloomily over the vestige of a small fire. The squalor and dirt of these interiors may well be imagined by those who are familiar with the indoor life of the Irish poor. The narrowness of the rickety wooden steps of the staircases which, leading to the upper rooms of the cottages, abut at their lower extremity almost on to the street shows the smallness of these dwellings. In some instances the stairs, little better than a mere ladder, descend into the middle of the ground-floor room and there is no passage leading up to them. What some of these houses must be like may be judged from the fact that the rent charged for a cottage in Institution-court is only 1*s.* 7*d.* per week. The chief institution in this court seems to be a large privy which stands out in bold relief within some few feet of one of the principal streets of the district. This privy likewise serves as an ashpit, the household rubbish being thrown into it over the low protecting wall. There is no cover to prevent the rain entering or the dust being blown out. The court opens wide on to a thoroughfare. The accompanying illustration (Fig. 1) is from a photograph which was taken not from the court, but from the

FIG. 1.

Institution-court from the street.

thoroughfare and therefore it shows what every person passing in the street may see. Of course all sense of privacy is obliterated. The inhabitants of the cottages go backwards and forwards to the privy in view of all the people who pass along the street at the top of this small court. Nor are there any means, especially at night, of preventing the strangers who pass by from frequenting the privy. As the privy can be used by anybody and everybody, it is nobody's duty to keep it clean. Consequently it becomes so foul that some persons have not ventured to approach the seat and have soiled the floor. A party of scavengers had been round on the morning of my visit and had swept out the court. With their brooms the fæcal matter on the floor in front of the seat of the closet had been more evenly spread over the boards. As will be seen by the illustration only a portion of the pavement of the court remains, and the stones have been shaken out of their proper places. They lie loosely on the soil, which is consequently as damp as if there had never been any pavement at all. The uncovered portion of the privy, in which fæcal matter and household refuse mixes together and is kept in a moist condition by the rain, measures about six feet by four feet. Naturally the odours that escape are very obnoxious and in the street at the top of the court, not twenty yards away, there is a national school where children congregate in close proximity

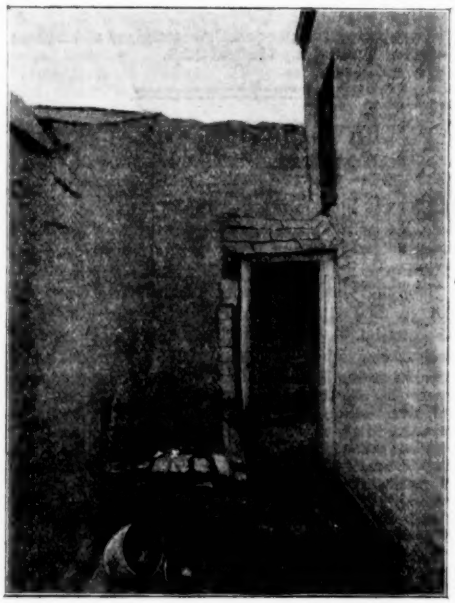
to this unhealthy accumulation of filth. About four feet from the privy there is a broken grid which drains the court. This grid, instead of lying flat over the drain, sticks upwards out of the ground. The pavement stones round about are of all shapes and slant in all directions, suggesting the effects of a small earthquake. Instead of helping to drain the court towards the grid or gully, they form obstacles to the passage of the water which consequently collects in small pools where, after remaining stagnant long enough to become foul, it gradually sinks into the subsoil. The houses in the court are of course damp and are inhabited by extremely poor and wretched people.

In addition to a privy thus exposed to public view in Institution-court, I found that close at hand, at one end of Killen-place, a manure heap had been allowed to accumulate and half block this small street. The heap consisted of straw, mud, ashes, dirty rags, a choice collection of ripped-up and shapeless old boots and shoes, tins, gallipots, garbage, and fæcal matter. Some of the bedroom windows overlooking this manure heap were broken and pieces of sacking hung across the window frames so as to keep out the cold. The gutters of the street were out of level and the stagnant water they contained could only be brought to the gully by the force of the scavengers' brooms, and by the time the scavengers come to the rescue the water in the gutter has become black and thick. Then just round the gullies and more than elsewhere the pavement has generally given way. There is often an indenture round the grid of the gully forming a small moat, the last obstacle to prevent the water reaching the sewer. From this final entrenchment the water can only reach the sewer by being lifted bodily up to the gully. As a rule this water is not so lifted but sinks into the earth outside and round the gully to reappear again in the walls of the houses, which it ascends by the force of capillary attraction. A gully of this description is close to the manure heap which stands in the middle of the street, and on the ground floor, behind a window that can be scarcely more than four feet from this gully, lying against the damp and foul wall, a woman had just given birth to a child on the morning of my visit.

The houses in Keppel-place are more modern and have four rooms. They are rented at 3*s*. 4*d*. per week. Fairly good accommodation should be obtained for that price, yet the condition in front of these cottages is a trifling grievance when compared to that which is allowed to prevail behind. In front we find gutters that permit water to stagnate till it becomes foul and then it renders the front walls damp and we have a manure heap in the middle of the street festering under broken bedroom windows, but there is at least a free current of air passing down the street. Behind there are tiny little yards barely 6 ft. wide and enclosed by high walls where the air cannot circulate so freely. At one end right across the entire width of one of these yards there is an open trench which serves the double purpose of ashpit and privy. On the side nearest to the house a little hut is constructed which forms the closet. In one yard the roof of this closet had entirely fallen away so that there was nothing between the closet and the bedroom windows above and privacy is therefore impossible. In the house where the infant was born on the day of my visit the roof still remains over the closet, but as the door has long since fallen off it is evident that there is no better privacy here. Thanks to a remarkable lens of only 2½ in. focus, manufactured expressely for THE LANCET by Messrs. Swift and Son, I was able to photograph this closet (Fig. 2) in spite of the exiguity of the space. It will be seen that not only has the door disappeared, but the wall has parted from the framework of the door, and only requires a gentle push to fall bodily into that part of the trench which serves as an ashpit. The seat of the closet, broken in two halves, is absolutely loose, and anybody attempting to sit upon it would very probably fall into the privy and bring the wall down after him. It is positively dangerous to approach the place. The children of the house do not go near it. They befoul the open yard, leaving their seniors to occasionally clear up the mess and throw it into the ashpit. The adults presumably make use of slop-pails within the house, and empty them into the ashpit. Viewing the condition of the masonry above ground it would be preposterous to imagine that the ashpit and privy are carefully cemented and rendered water-tight under ground. Its contents are kept in a moist condition by the rain that falls into the uncovered ashpit, and the water, rendered foul by the fæcal matter, garbage, &c., sinks into the subsoil. The gases which it generates are drawn into the house by the higher temperature that prevails within. Besides, it will be seen that there is a window just overlooking this privy and placed conveniently near to give admittance to the foul emanations that escape into the outer air. Great dilapidation also prevails inside the houses. In the house next door the partition wall that divides the upstair rooms is falling in, and I was consulted as to whether it was not dangerous to sleep by the side of such a wall.

To leave this melancholy neighbourhood I went through a sombre passage known as Larry's Hold. Here there were dark recesses where filth of all sorts had been thrown and fæcal matter had been deposited along the walls. There is a public-house at the far end of the passage, and on reaching the broad thoroughfare beyond called Barrack-street I arrived just in time to see a herd of about forty pigs coming out of a house on the opposite side of the street. These houses have long backyards that lead down to the banks of

FIG. 2.



Closet in a yard in Keppel-place.

a small shallow stream denominated the Pond Bourne. In several of these yards a great number of pigs are not only kept but slaughtered. I consequently noticed that there was a considerable amount of blood in the stream together with stable manure and some offal. Drains were also emptying into the stream, which is thus converted into a sewer. But though there had been some rain the water was hardly a foot deep and protruding mud banks and other obstacles created stagnant pools and one of these seemed to consist more of blood than of water. In a yard on the banks of this stream where a great number of pigs are kept there is an open, uncovered, large privy and ashpit placed on the highest part of the ground. From the corner of this privy a black fœtid liquid oozed through the privy wall and lazily trickled across the yard towards the pig stables and the stream situated at the lowest extremity. Now all this is occurring in the very centre of the town, not far from the luxurious neighbourhood of College-square. Overlooking the poisoned waters of this stream and the piggeries on its banks are the back windows of fairly good houses including a public-house and a confectioner's shop. Finally, in a short passage leading up from Barrack-street to Davis-street the ground floor of the cottages is below the level of this muddy and unpaved thoroughfare. Indeed, most of the houses about here are very damp. Fungous growths can be picked off the walls, and this damp is caused by water that mixes freely with fæcal matter. In most cases also the contents of privies

when emptied have to be carried through the inhabited rooms, for it would have cost too much money and too much space to build back passages. Perhaps now it will more easily be understood why typhoid fever is endemic at Belfast.

(To be concluded.)

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

West Riding County District.—Dr. J. R. Kaye's report on the health of this large and important district for 1896 is the first which he has issued in his capacity of county medical officer of health, but it has to be noted that his appointment only dated from the middle of the year under review. The sanitary survey of the West Riding which was commenced in 1894 by Dr. Whitelegge is progressing union by union and Dr. Kaye tells us that the action which has been taken as a result of such inspections has had a highly beneficial effect. During 1896 inquiries were made as to isolation accommodation in forty-eight sanitary districts and in July of that year an inquiry under the Isolation Hospitals Act was held in reference to a hospital district for the several sanitary areas within the Penistone Union. Other schemes are pending and the prospect in this direction is hopeful. In another and perhaps little less important direction, that of smoke abatement, there are signs of activity; and we expect that in their endeavour to cope with this nuisance the county council will meet with almost as much support as opposition. There are but few disinterested persons who are at all acquainted with the smoke-producing areas of the West Riding and who have sojourned for a short time in places like Leeds and Bradford who would not most heartily welcome the bestowal of greater powers on any body capable of dealing with this question in an energetic and effectual manner. From replies which have been received to a circular letter issued by the Sanitary Committee of the county council to the several district councils in the Riding it is clear that little is being done and we are therefore very glad to hear that an attempt is being made to procure for county councils further powers in this direction. If such powers are conferred either on county councils or on the joint boards established for the purpose it is to be hoped that the electors will have the energy to return only such representatives as will have proper regard for sunlight and fresh air. Lead poisoning is another matter which is receiving the attention of the West Riding Sanitary Committee and through their influence protective clauses compelling the company to deliver water which is inactive on lead pipes have been introduced into five West Riding Water Acts. This question of lead poisoning is, as Dr. Kaye points out, a momentous one for the inhabitants of the West Riding, in which, according to a recent report of the Local Government Board, there are over 700,000 persons whose public water-supply has given rise to multiple cases of lead poisoning during recent years. Dr. Kaye is to be complimented on his first report, but we must not forget, in our admiration for the West Riding Sanitary Committee, that they in no small measure reap a harvest sown by Dr. Whitelegge.

Portsmouth Urban District.—Portsmouth affords a good illustration of the impracticability of supervising the meat-supply of a large town without the assistance which a public abattoir affords. In Porstmouth, which has an estimated population of 178,612, there are no less than 172 registered slaughter-houses, 115 of them being in actual use. During 1896 as many as 4366 visits were paid to these places, but, as Dr. M. Fraser (the medical officer of heath) observes, even all this expenditure of inspectorial energy is insufficient to prevent the slaughter of diseased animals and the sale of meat unfit for consumption. Furthermore, as he points out in urging the erection of an abattoir, such an establishment would dispense with the accumulation of offal in different parts of the town and its consequent conveyance through the streets. We gather, however, from Dr. Fraser's tone that there is no immediate prospect of an abattoir being established in Portsmouth, and it can only be hoped that the report of the Commission on the Prevention of Tuberculosis may contain some recommendations on the general question of abattoirs which will stimulate town councils like that of Portsmouth to progress in this direction. In the matter, too, of isolation accommodation Portsmouth appears behindhand, there being provision for but 120 patients instead of 180 as there should be on the usually accepted basis.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6785 births and 4031 deaths were registered during the week ending Jan. 29th. The annual rate of mortality in these towns, which had been 20·6 per 1000 in each of the two preceding weeks, declined again last week to 19·7. In London the rate was 20·4 per 1000, while it averaged 17·6 in the thirty-two provincial towns. The lowest rates in these towns were 11·3 in Croydon, 12·2 in Huddersfield, 12·6 in Gateshead, and 13·0 in Oldham; the highest rates were 22·4 in Birmingham, 22·6 in Brighton, 22·9 in Norwich, and 29·6 in Wolverhampton. The 4031 deaths included 468 which were referred to the principal zymotic diseases, against 526 and 521 in the two preceding weeks; of these, 149 resulted from whooping-cough, 148 from measles, 82 from diphtheria, 45 from scarlet fever, 34 from "fever" (principally enteric), and 30 from diarrhœa. No death from any of these diseases was recorded last week in Plymouth or in Preston; in the other towns they caused the lowest death-rates in Huddersfield, Croydon, Nottingham, and Bolton, and the highest rates in Bristol, Wolverhampton, Sunderland, and Gateshead. The greatest mortality from measles occurred in Oldham, Hull, Birkenhead, Blackburn, Sunderland, and Bristol; and from whooping-cough in London, Derby, Sheffield, Gateshead, Portsmouth, and Norwich. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 82 deaths from diphtheria included 36 in London, 6 in Cardiff, 6 in Wolverhampton, 4 in Birmingham, 4 in Liverpool, and 4 in Leeds. No fatal case of small-pox was registered during the week under notice either in London or in any other of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 3061, against 3450, 3253, and 3149 on the three preceding Saturdays; 244 new cases were admitted during the week, against 239, 215, and 248 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 516 and 567 in the two preceding weeks, declined again last week to 471, and were 116 below the corrected average. The causes of 46, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Oldham, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Leeds, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the three preceding weeks from 24·3 to 19·0 per 1000, further fell to 17·4 during the week ending Jan. 29th, and was 1·3 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 9·5 in Leith and 15·8 in Edinburgh to 20·0 in Aberdeen and 21·3 in Greenock. The 525 deaths in these towns included 27 which were referred to whooping-cough, 22 to diarrhœa, 7 to scarlet fever, 6 to measles, 3 to diphtheria, and 2 to "fever." In all, 67 deaths resulted from these principal zymotic diseases, against 57 and 64 in the two preceding weeks. These 67 deaths were equal to an annual rate of 2·2 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 11 and 21 in the two preceding weeks, further rose to 27 last week, of which 18 occurred in Glasgow, 5 in Edinburgh, and 3 in Greenock. The deaths referred to scarlet fever, which had been 7 and 9 in the two preceding

weeks, declined again to 7 last week, of which 3 were recorded in Edinburgh, and 2 in Dundee. The 6 fatal cases of measles showed a further decline from recent weekly numbers, and were all registered in Glasgow. The deaths from diphtheria, which had been 9, 2, and 5 in the three preceding weeks, declined to 3 last week. The 2 fatal cases of "fever" were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 158 and 139 in the two preceding weeks, further declined to 92 last week, and were less than half the number in the corresponding period of last year. The causes of 23, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 31·0 to 33·0 per 1000, declined again to 28·9 during the week ending Jan. 29. During the past four weeks of the current quarter the death-rate in the city has averaged 31·2 per 1000, the mean rate during the same period being 22·4 in London and 19·1 in Edinburgh. The 194 deaths registered in Dublin during the week under notice showed a decline of 27 from the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 12 and 21 in the two preceding weeks; of these, 8 resulted from "fever," 4 from whooping-cough, 3 from scarlet fever, 1 from diphtheria, and 1 from diarrhœa. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·7 in London and 2·1 in Edinburgh. The deaths referred to different forms of "fever," which had been 2 and 8 in the two preceding weeks, were again 8 last week. The 4 fatal cases of whooping-cough exceeded the number recorded in any recent week. The deaths from scarlet fever, which had declined from 5 to 2 in the three preceding weeks, rose again to 3 last week. The mortality from diphtheria showed a marked decline from that recorded in recent weeks. The 194 deaths in Dublin last week included 29 of infants under one year of age and 53 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a further decline from those returned in recent weeks. Five inquest cases and 3 deaths from violence were registered; and 68, or more than a third, of the deaths occurred in public institutions. The causes of 17, or nearly 9 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING 1897.

Complete statistics relating to sickness and mortality during the year 1897 in each of the forty-three sanitary areas of London are summarised in the accompanying table. The mortality figures relate to the deaths of persons actually belonging to the various sanitary areas and are the result of a complete system of distribution of deaths occurring in the institutions of London among the different sanitary areas in which the patients had previously resided. With regard to the notified cases of infectious diseases in London during 1897, it appears that the proportion of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 10·2 per 1000 of the population, estimated at 4,463,169 persons in the middle of the year. In the preceding three years the rates were 9·4, 9·5, and 11·1 per 1000 respectively. Among the various sanitary areas the lowest rates were 4·9 in St. George Hanover-square, 5·3 in Hampstead, 6·4 in St. Martin-in-the-Fields, 6·6 in Hammersmith, 6·7 in Stoke Newington, and 6·9 in Marylebone; the highest rates were 12·3 in Hackney and in Whitechapel, 13·1 in Limehouse and in Poplar, 13·3 in Clerkenwell, 13·4 in Mile End Old Town and in St. Luke, 13·8 in Bethnal Green, and 15·0 in Battersea. The prevalence of small-pox in London showed a further marked decline during 1897, the new cases notified being only 104, against 2813, 1192, 979, and 225 in the four preceding years; of these, 32 belonged to Camberwell, 10 to the Port of London, 9 to Poplar, and 8 to Strand sanitary areas. The number of small-pox patients admitted into the Metropolitan Asylum Hospitals during 1897 was 86, all of whom were received before the end of July; and no cases have been under treatment in these hospitals since August last. The prevalence of scarlet fever in London during 1897 showed a decline from that recorded in the previous year, the number of cases notified being 22 850, against 18 446, 19,757, and 25,647 in the three preceding years; this disease was proportionally most prevalent in Fulham, Limehouse, Mile End Old Town, St. George Southwark, Newington, St. Olave Southwark, Rotherhithe, and Battersea sanitary areas. During the year under notice 15 256 scarlet fever patients were admitted into the Metropolitan Asylum Hospitals, against 11,271 and 15,982 in the two preceding years; the number of cases under treatment, which had been 3601 at the beginning of the year had declined to 3507 at the end of December last. Diphtheria also showed decreased prevalence during 1897, the cases notified being 13,192, against 11,186, 11,223, and 13,808 in the three preceding years; this disease showed the highest proportional prevalence in Hackney, Holborn, Clerkenwell, St. Luke, Bethnal Green, Whitechapel, Mile End Old Town, Poplar, St. Saviour Southwark, and Camberwell sanitary areas. The Metropolitan Asylum Hospitals contained 829 diphtheria patients at the beginning of 1897; 6592 cases were admitted during the year, and 1066 remained under treatment at the end of December last. The prevalence of enteric fever in London during the year under notice differed but slightly from that recorded in 1896; among the various sanitary areas this disease was proportionally most prevalent in St. Pancras, Stoke Newington, Hackney, Clerkenwell, St. Luke, St. George-in-the-East, Limehouse, and Poplar. The number of enteric fever patients admitted into the Metropolitan Asylum Hospitals during 1897 was 939, against 534, 661, and 600 in the three preceding years; and 116 cases remained under treatment at the end of December last. Erysipelas showed the highest proportional prevalence in Marylebone, St. Giles, St. Luke, Shoreditch, Bethnal Green, St. George-in-the-East, and Rotherhithe sanitary areas. The 264 notified cases of puerperal fever showed a slight decline from the number recorded during 1896; 27 belonged to Islington, 27 to Lambeth, 16 to Kensington, 16 to Newington, 15 to St. Pancras, 14 to Fulham, 14 to Camberwell, and 12 to Poplar sanitary areas.

During the year under notice the deaths of 78,972 persons belonging to London were registered, equal to a rate of 17·7 per 1000, against 17·4, 19·4, and 18·2 in the three preceding years 1894–5–6. This rate was, with one exception, lower than in any year on record, and was 1·8 per 1000 below the average rate in the ten preceding years. In the various sanitary areas the lowest death-rates were 11·8 in Hampstead, 12·8 in Lewisham (excluding Penge), 13·2 in St. George Hanover-square and in Lee, 13·4 in Wandsworth, 13·7 in Plumstead, and 14·3 in Stoke Newington; the highest rates were 22·1 in Clerkenwell, in St. Olave Southwark, and in Bermondsey, 23·1 in Holborn, 23·7 in St. George Southwark, 24·6 in St. Saviour Southwark, 25·1 in Limehouse, 25·7 in St. Luke, and 26·4 in St. George-in-the-East. Taking the five groups of sanitary areas the rate of mortality during 1897 was equal to 16·0 per 1000 in the West, 16·6 in the North, 17·2 in the the South, 21·2 in the East, and 21·8 in the Central districts. To the principal zymotic diseases 11,454 deaths were referred during the year under notice; 4089 resulted from diarrhœa, 2240 from diphtheria, 1927 from measles, 1837 from whooping-cough, 779 from scarlet fever, 566 from different forms of "fever" (including 1 from typhus, 557 from enteric fever, and 8 from simple and ill-defined forms of fever), and 16 from small-pox. These 11,454 deaths were equal to an annual rate of 2·57 per 1000, against 2·64, 2·62, and 3·11 in the three preceding years, 1894–5–6. Among the various sanitary areas the zymotic death-rates ranged from 1·09 in St. George Hanover-square, 1·16 in Hampstead, 1·19 in St. Martin-in-the-Fields, 1·43 in Lee, 1·61 in Marylebone, 1·63 in St. Giles, and 1·66 in City of London, to 3·61 in Clerkenwell, 3·66 in St. Saviour Southwark, 3·82 in St. Luke, 4·07 in Shoreditch, 4·27 in St. George-in-the-East, and 4·35 in St. George Southwark and in Bermondsey. The 16 fatal cases of small-pox registered in London during 1897 were 27 below the corrected average number in the ten preceding years; of these, 5 belonged to Camberwell, 2 to Greenwich, and 2 to Strand sanitary areas. The 1927 deaths referred to measles were 948 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in St. Luke, Bethnal Green, Shoreditch, St. George-in-the-East, Limehouse, St. Saviour Southwark, St. George Southwark, and Bermondsey. The 779 fatal cases of scarlet fever were 311 below the corrected average number; this disease was proportionately most fatal in St. James Westminster, St. Luke, St. George-in-the-East, Bermondsey, and Rotherhithe sanitary areas.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1897.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1897.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,463,169**	**104**	**22,850**	**17,192**	**4**	**3106**	**65**	**264**	**5795**	**38**	**45,419**	**10·2**	**16**	**1927**	**779**	**2240**	**1837**	**1**	**557**	**8**	**4089**	**11,454**	**2·57**	**78,972**	**17·7**	**158**
West Districts.																										
Paddington	126,161	1	489	324	—	46	—	8	136	1	1005	8·0	—	2	21	64	44	—	9	1	102	243	1·94	1814	14·4	149
Kensington	171,427	—	747	332	—	116	5	16	237	1	1454	8·5	—	32	30	81	19	—	21	1	120	304	1·78	2677	15·7	166
Hammersmith	105,969	—	396	154	—	45	4	8	92	1	700	6·6	—	6	11	30	28	—	8	1	128	211	1·99	1760	16·7	171
Fulham	120,040	—	759	288	—	53	5	14	134	1	1354	11·3	—	51	26	63	61	—	12	1	148	362	3·04	2034	17·0	142
Chelsea	96,692	—	488	312	—	52	1	4	98	—	955	9·9	—	18	17	54	41	—	14	—	100	244	2·55	1713	17·8	161
St. George Hanover-square	80,330	1	177	120	—	39	2	1	51	—	391	4·9	—	17	7	16	13	—	10	—	25	88	1·09	1059	13·2	133
Westminster	53,027	—	181	111	—	28	1	4	66	1	392	7·4	—	28	13	24	16	—	6	—	47	132	2·49	1004	18·9	166
St. James Westminster	22,576	3	131	50	—	13	2	1	24	—	224	9·9	—	13	8	3	6	—	3	—	9	42	1·87	393	17·5	165
North Districts.																										
Marylebone	146,808	4	357	221	—	88	1	5	254	2	972	6·9	—	9	9	46	41	—	14	—	108	227	1·61	2572	18·3	138
Hampstead	77,275	—	224	107	—	32	2	2	40	—	407	5·3	—	9	6	17	25	—	5	—	28	90	1·16	911	11·8	127
St. Pancras	242,255	3	942	542	—	223	8	15	388	3	2124	8·8	1	87	24	114	124	—	38	—	209	597	2·47	4518	18·7	168
Islington	341,134	3	1577	733	—	259	1	27	313	1	2914	8·6	1	99	61	129	134	—	45	—	184	653	1·91	5387	15·8	136
Stoke Newington	34,136	2	108	54	—	37	1	3	23	—	228	6·7	—	7	2	19	15	—	10	—	19	72	2·12	488	14·3	121
Hackney	216,698	3	1373	780	—	209	5	11	273	—	2654	12·3	—	127	37	134	97	—	35	—	196	626	2·90	3573	16·5	147
Central Districts.																										
St. Giles	37,840	3	209	56	—	33	—	2	94	—	397	10·5	—	9	7	7	18	—	6	—	14	61	1·63	697	18·5	146
St. Martin-in-the-Fields	12,711	1	44	14	—	5	—	—	17	—	81	6·4	1	1	2	3	5	—	1	—	2	15	1·19	206	16·3	178
Strand	23,562	8	126	41	—	20	—	—	18	—	213	9·1	2	10	3	5	6	—	4	—	18	48	2·06	500	21·3	161
Holborn	30,493	—	119	161	—	35	—	—	46	—	361	11·5	—	6	4	16	19	—	5	—	35	85	2·79	703	23·1	184
Clerkenwell	66,162	—	366	349	—	63	—	2	99	—	879	13·3	1	49	14	48	49	—	11	—	66	238	3·61	1459	22·1	184
St. Luke	41,279	—	238	186	—	41	—	2	85	—	552	13·4	—	40	13	21	28	—	4	—	51	157	3·82	1056	25·7	149
City of London	30,228	2	95	63	—	23	—	2	26	2	213	7·0	1	7	8	10	10	—	9	—	5	50	1·66	642	21·3	130
East Districts.																										
Shoreditch	121,883	1	625	371	—	107	2	2	226	1	1335	11·0	1	116	30	78	63	—	20	—	189	497	4·07	2628	21·6	183
Bethnal Green	129,098	2	723	549	1	106	—	7	383	1	1772	13·8	—	114	25	84	57	1	17	1	140	439	3·41	2761	21·4	171
Whitechapel	79,724	—	500	201	1	55	—	4	119	—	980	12·3	—	45	15	34	16	—	8	—	53	171	2·16	1633	20·4	148
St. George-in-the-East	47,917	1	242	191	—	43	1	3	85	—	566	11·8	—	68	14	28	24	—	10	—	60	204	4·27	1262	26·4	197
Limehouse	58,508	—	427	193	—	52	—	4	87	—	763	13·1	—	63	12	29	37	—	4	—	61	206	3·54	1462	25·1	193
Mile End Old Town	111,883	—	816	445	—	83	—	7	145	—	1496	13·4	—	77	12	62	58	—	23	—	58	330	2·97	2085	18·7	149
Poplar	169,811	9	1041	704	—	195	3	12	261	1	2226	13·1	—	83	28	120	85	—	30	—	175	519	3·06	3353	19·8	170
South Districts.																										
St. Saviour Southwark	24,919	—	131	104	—	16	—	—	28	—	279	11·2	—	32	7	12	12	—	2	—	26	91	3·66	611	24·6	195
St. George Southwark	60,388	1	381	191	—	40	1	1	88	—	703	11·7	1	67	14	28	32	—	10	1	109	262	4·35	1496	23·7	189
Newington	122,191	—	769	231	—	79	—	16	159	—	1354	11·1	—	85	33	65	82	—	9	—	165	439	3·59	2588	21·2	177
St. Olave Southwark	11,480	1	88	29	—	10	—	1	10	—	139	12·1	—	6	2	2	8	—	1	—	15	34	2·96	253	22·1	184
Bermondsey	85,629	1	507	278	—	62	—	1	94	—	943	11·0	—	76	34	62	62	—	13	—	124	371	4·35	1883	22·1	190
Rotherhithe	40,643	—	288	86	—	24	—	4	73	—	475	11·7	—	21	22	21	17	—	2	—	49	132	3·26	766	18·9	174
Lambeth	300,048	2	1388	741	—	184	10	27	322	17	2691	9·0	—	140	42	144	144	—	26	—	295	791	2·65	5247	17·5	151
Battersea	163,877	5	1585	621	1	93	—	7	211	1	2524	15·0	—	79	47	106	79	—	19	—	140	470	2·79	2734	16·2	162
Wandsworth	195,612	1	1024	573	—	98	6	9	239	—	1950	10·0	—	27	29	111	42	—	16	1	144	370	1·91	2606	13·4	135
Camberwell	257,575	32	1191	1170	—	180	1	14	297	—	2885	11·1	5	141	32	170	111	—	31	—	260	750	2·91	4276	16·6	159
Greenwich	178,367	1	818	600	—	144	2	10	239	—	1814	10·2	2	35	32	70	57	—	29	—	180	405	2·27	3058	17·2	157
Lewisham (excluding Penge)	86,152	—	298	219	—	46	—	2	81	—	646	7·5	—	17	9	36	19	—	7	—	59	147	1·71	1099	12·8	129
Woolwich	41,409	2	224	148	—	18	1	2	36	—	431	10·4	—	2	8	35	8	—	4	—	50	105	2·54	732	17·7	157
Lee	39,215	1	210	110	—	17	—	1	51	—	390	10·0	—	6	3	17	5	—	3	—	22	56	1·43	516	13·2	135
Plumstead	61,057	—	373	135	—	25	—	3	46	4	586	9·6	—	3	6	24	22	—	3	1	61	120	1·97	837	13·7	117
Port of London	—	10	15	4	1	9	—	—	2	—	41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 388 cases of membranous croup.

† Including deaths from membranous croup.

The 2240 deaths referred to diphtheria exceeded by 223 the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, Bethnal Green, Poplar, Bermondsey, Battersea, Camberwell, and Woolwich. The 1837 fatal cases of whooping-cough were as many as 797 below the corrected average number; this disease was proportionally most fatal in Clerkenwell, St. Luke, Limehouse, Newington, St. Olave Southwark, and Bermondsey sanitary areas. The 566 deaths referred to different forms of "fever" were 68 below the corrected average number; among the various sanitary areas the highest "fever" death-rates were recorded in Stoke Newington, Clerkenwell, City of London, St. George-in-the-East, and Mile End Old Town. The 4089 fatal cases of diarrhœa were as many as 1119 above the corrected average number; this disease showed the highest proportional fatality in Fulham, St. Luke, Shoreditch, St. George-in-the-East, St. George Southwark, Newington, St. Olave Southwark, and Bermondsey sanitary areas. In conclusion, it may be stated that the mortality in London during 1897 from these zymotic diseases in the aggregate was nearly 7 per cent. below the average.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to registered births, was equal to 158 per 1000, against 143, 165, and 160 in the three preceding years. The rates of infant mortality in the various sanitary areas ranged from 117 in Plumstead, 121 in Stoke Newington, 127 in Hampstead, 129 in Lewisham, 133 in St. George Hanover-square and in City of London, and 135 in Wandsworth, to 183 in Shoreditch, 184 in Holborn and in Clerkenwell, 189 in St. George Southwark, 190 in Bermondsey, 193 in Limehouse, 195 in St. Saviour Southwark, and 197 in St. George-in-the-East.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-COLONEL F. B. SCOTT, C.M.G., lately at Quetta, is appointed Principal Medical Officer of the North-Western District (Chester), vice Surgeon-Colonel J. H. Hughes, who goes to India.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Captain F. Wyville-Thomson (Bengal), are placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh. The services of Surgeon-Lieutenant-Colonel D. W. D. Comins, Inspector-General of Gaols, Bengal, are placed temporarily at the disposal of the Chief Commissioner of the Central Provinces.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major W. H. B. Crockwell, having resigned his appointment in the Volunteer Medical Staff Corps, ceases to belong to the Army Medical Reserve of Officers. Surgeon-Major John Sutcliffe resigns his commission.

VOLUNTEER CORPS.

Artillery: 2nd Middlesex: Surgeon-Captain I. Scarth, M.B., resigns his commission; Leonard Arthur Bidwell to be Surgeon-Lieutenant. 1st Ayrshire and Galloway: Surgeon-Lieutenant T. Easton, M.D., resigns his commission. *Rifle:* 3rd Volunteer Battalion the Lancashire Fusiliers: Surgeon-Captain John Turville Smith, late Captain 1st Volunteer Battalion South Lancashire Regiment, resigns his commission, and is appointed Lieutenant. 3rd Volunteer Battalion the East Surrey Regiment: Surgeon-Captain J. J. de Z. Marshall, from the 1st Cinque Ports Volunteer Rifle Corps, to be Surgeon-Captain. 2nd London: Surgeon-Lieutenant W. A. Bond, M.D., to be Surgeon-Captain.

THE NEWS FROM INDIA AND THE INDIAN FRONTIER.

The news from the Indian frontier as to the reverse sustained by a British column in the Afridi country is most unfortunate and disappointing, not only on account of the loss of life and casualties it involved, but from the effect it is likely to have upon the tribes at a time when there was every reason to believe their further opposition had entirely broken down. The Anglo-Indian press very severely criticises the conduct of the campaign and dwells adversely upon the incompetence and inexperience of many of the officers appointed to posts on the military staff of the expedition. Nor can it be said, after reading the official account in General Westmacott's report, that there was not grave mismanagement somewhere. The mistaken withdrawal of the force, for example, crowning the ridge held to cover the advance of the main body of the troops which was the key of the position, the subsequent entanglement of the column in a mountain gorge and the seeming want of proper precautions to guard against the well-known tactics of the enemy are not pleasant reading. The ridge had to be retaken and reoccupied after hard fighting and the return march was very nearly becoming a serious military disaster. The loss of life and number of casualties among the officers were as usual disproportionately large. It is said that Sir William Lockhart has never had a free hand, but has been hampered and controlled by orders from the Simla Government. Be this as it may the conduct of the campaign as a whole and the military capacity of those conducting it as well as the efficiency of their respective staffs have been already subjected to severe criticism. We know from past experience how any alleged failure of the medical department in the field is apt to become exaggerated and to lead to public inquiry and the purely combatant branches of the service cannot expect to escape altogether. We entirely concur, however, in Sir William Lockhart's remarks as to the extremely difficult nature of the country and the very arduous character of a campaign against the Afridis. And, in spite of this Mamani reverse, we still think that the neck of the tribal revolt has been broken although a spring campaign may have to be undertaken to secure the entire submission of the tribes. To add to the difficulties of the Indian Government at the present time the progress of the plague has not been stayed and there have been serious riots in some of the infected districts.

MUTATO NOMINE.

It is worthy of remark that whereas the officers of our Army Medical Staff are victims to discontent their brethren in our navy being happy a precisely opposite condition of things should be prevalent in the United States. In his annual report for 1896 the Surgeon-General of the United States Navy writes as follows: "Within the past year the number of vacancies in the medical corps has increased, there being fifteen vacancies at the present time, nor does there appear to be any immediate prospect toward filling the corps. Legislation looking toward the improvement of the present status of assistant surgeons in the navy and placing them on a similar footing with assistant surgeons of the army is urgently needed and a Bill having this object in view will be submitted to the Department for its consideration at an early date, with the recommendation that it be transmitted to Congress with a favourable endorsement." It seems that during the fiscal year ending June 30th, 1897, the Department received no fewer than 275 applications for information concerning the appointment of assistant-surgeons in the medical corps of the navy, but apparently the attractions set forth were not sufficiently rose-coloured, for "permits to appear before the naval medical examining boards" were issued to only 44 applicants only. This was bad enough, but the sequel is still worse. Of the 44 prospective competitors 8 failed to put in an appearance, 8 more were rejected on physical grounds, and 19 were found to be professionally unfit. In the end only 9 candidates succeeded in proving themselves to be physically and technically qualified for admission into the medical corps of the navy.

PROPOSED AMALGAMATION OF THE BRITISH AND INDIAN MEDICAL SERVICES.

The *Pioneer Mail* of Jan. 14th has an article, or rather a series of articles, on the above subject *apropos* of the anticipated issue of a new medical warrant and the question of purely military titles for the Indian Medical Service being complicated by the fact of the latter service being divided practically into a civil and military portion. Our contemporary goes somewhat fully into the history of the subject of the amalgamation of the military medical services and says that whether it be carried out or not it is difficult to resist the conclusion of a Surgeon-General of Her Majesty's forces that "the division of civil from military duties must be trenchant and distinct." The *Pioneer Mail* adds that it is certain some fresh recommendation will be made by the Welby Commission, which took some important evidence on the question tending to show the unsatisfactory

nature of the existing system in both its military and civil branches.

DEATHS IN THE SERVICES.

Staff-Surgeon John Stewart, M.D. St. And., L.R.C.S. Edin., R.N. (retired), at his residence, Craigard, Kinnoull, Perth, on Jan. 28th. He was born at Perth in 1810, and entered the Navy in 1836, being appointed to the *Bellerophon*. He was present in 1840 at the bombardment of St. Jean d'Acre and Beyrout, on the coast of Syria, and subsequently joined the frigate *North Star*, and was present at the bombardment of Woosung in China. During the siege of Sebastopol he served on board H.M.S. *Sphinx*, and was later engaged at Therapia, Constantinople. In addition to the Sebastopol clasp and the Order of the Medjidieh he received five medals.

THE ESCAPE OF SOLDIER LUNATICS.

Two insane patients quite recently managed to effect their escape from the lunatic ward of the Cambridge Hospital at Aldershot by forcing out two of the heavy iron bars of the window. The two soldiers were subsequently captured at Guildford.

THE SOUDAN EXPEDITION.

According to the latest intelligence the Dervishes were evacuating Metemmeh and concentrating at Omdurman, where they were strengthening the defences. The Anglo-Egyptian force is encamped on a healthy site in the desert in the vicinity of the Nile and is very healthy.

Consequently on the reductions in the Army Staff of the Tirah field force Brigade-Surgeon-Lieutenant-Colonel Thomsett has returned to ordinary duty.

Correspondence.

"Audi alteram partem."

THE INTERNATIONAL MEDICAL CONGRESS AT MOSCOW.

To the Editors of THE LANCET.

SIRS,—A few weeks ago I received from the British Consulate a beautifully executed address to the following effect signed by ninety-nine British medical visitors:—

"To Professor Roth, the Secretary; the Organising Committees; the Ladies' Committee; and the Students of Moscow.

"We, the undersigned Members of the Twelfth International Medical Congress held at Moscow, 1897, desire to express our appreciation of the admirable manner in which the arrangements of the Congress have been carried out, and we desire especially to acknowledge with cordial thanks the hospitality and kindness we received alike from the organising committees of the medical profession in Moscow, St. Petersburg and Warsaw, as also from the Russian people in general."

I did all that was possible to make the contents of the address known to the persons concerned, who, I am in a position to state, were extremely gratified. The Executive Committee of the Congress have charged me with the agreeable task of expressing to our colleagues our best thanks for this kind mark of attention and I therefore beg you to insert this letter in THE LANCET.

I am, Sirs, yours faithfully,
W. K. ROTH,
General Secretary of the Twelfth International
Moscow, Jan. 28th, 1898. Medical Congress.

"IDIOPATHIC DILATATION OF THE COLON."

To the Editors of THE LANCET.

SIRS,—In the excellent and interesting paper on "Idiopathic Dilatation of the Colon" by Mr. Frederick Treves published in THE LANCET of Jan. 29th he ventures the opinion that "there is strong evidence to support the suggestion that *all* cases of idiopathic dilatation of the colon in young children are due to congenital defects of the terminal part of the bowel." I am convinced that this statment is too absolute. No doubt the majority of extreme cases, where the distension is enormous, so great as to threaten life, and the outcome of which is indeed almost invariably fatal, are the result of actual mechanical obstruction from congenital stricture of the lower bowel. Several instances of this extreme form due to congenital malformation of the gut have come under my own observation. All have been fatal and all have occurred in very young children. The extreme degree of dilatation, accompanied by all the symptoms of dangerous embarrassment of vital organs, does, however, occur in children as the result of extreme and persistent constipation alone, aggravated often by injudicious treatment but without organic stricture.

Dilatation of the colon is an almost constant accompaniment of chronic constipation in children; it is usually not excessive, but often sufficient to cause bulging of the lower costal cartilages and upper abdomen and pushing up the organs above so that the heart's apex may be displaced to the nipple or above it and tympanitic resonance extend upwards to that level.

In a clinical lecture on this subject published in THE LANCET in December, 1886, I gave a full account of a case in a boy of five and a half years, under my care at the Children's Hospital, Great Ormond-street,[1] in which the dilatation was as extreme and the symptoms apparently as urgent as that on which Mr. Treves performed his brilliant operation. Without repeating the case in detail I may say that the heart was pushed upwards, the apex being above the nipple in the third left intercostal space and pulsation was marked in the first and second left spaces above it also. No source of obstruction could be detected. The boy was in great distress, vomiting constantly, cyanosed, cold, collapsed, with intermittent pulse and threatening of syncope. The condition of the patient became so urgent and indeed desperate that I decided to puncture the transverse colon to relieve the deadly upward pressure of the distended bowel. This was done accordingly without further delay with a fine trocar duly sterilised. Gas issued freely through the tube and a large quantity was allowed to escape. The distension subsided, the urgent symptoms were forthwith relieved, and the patient eventually recovered.

It may be said that after all there is no positive proof of the absence of organic obstruction, since there was fortunately no post-mortem examination. The proof lies, I think, in the sequel—which is not recorded in the lecture referred to—viz., the fact that the patient recovered not only at the time but permanently. Under a course of massage and electric stimulation of the gut combined with the exhibition of strychnia and saline laxatives, treatment extending over a long period of many months, the colon recovered its calibre and tone and the bowels acted spontaneously without aperient medicine. The case remained under my observation for several years after this re-establishment of function and the recovery proved final and complete. I do not think it can be conceived possible that such permanent recovery could take place if the dilatation were due to obstruction through any organic stricture of the gut below.

I am, Sirs, yours faithfully,
Jan. 31st, 1898. W. B. CHEADLE.

"LEGISLATION AS A REMEDY FOR MEDICAL GRIEVANCES."

To the Editors of THE LANCET.

SIRS,—I am afraid from his allusion to my "address" reported by you in THE LANCET of Jan. 22nd that Dr. Carr has not had the opportunity of reading the address itself published by you on Jan. 1st. What you published on the 22nd was only my reply to Mr. Carter's address. If Dr. Carr will kindly refer to mine of Jan. 1st he will find that he has inadvertently failed to meet the whole basis of my argument—namely, Section 6 of the Medical Act of 1886, according to which upon registered practitioners alone is conferred the privilege of being "entitled to practise medicine, surgery, and midwifery." If he will also refer to the Medical Act, 1858, he will find that my definition of a duly or legally qualified practitioner as only a person whose name is on the Register is without doubt correct as I always quote it from Section 34. I feel sure that a completer study of medical legislation will convince Dr. Carr and those who wish to deal earnestly with the problems of medical reform that there is more in our Medical Acts than many believe or others care to admit.

May I also allude to a curious misconception which is evidently not confined to Dr. Carr? I never attacked, as he

[1] THE LANCET, Dec. 11th, 1886, p. 1117.

evidently thinks I did, either the status or rights of the members of the Society of Apothecaries. I simply showed at the General Medical Council that a new claim put forward by Mr. Upton was based upon his wrongful employment of the word "qualification." My letter in THE LANCET of Jan. 29th deals with this matter.

I am, Sirs, yours faithfully,

Cavendish-square, W., Jan. 31st, 1898. VICTOR HORSLEY.

"THE WHOLE QUESTION OF NURSING."

To the Editors of THE LANCET.

SIRS,—I have recently received a letter from the Incorporated Medical Practitioners' Association enclosing an article reprinted from its official organ, the *Medical Times and Hospital Gazette*, requesting me to vote for a motion for the appointment of a Select Committee to inquire into "the whole question of nursing," which appears to include the midwives agitation and the trained nurses' movement. A Bill was introduced into Parliament last session entitled "A Bill for the Registration of Midwives," and this Bill will probably be brought forward again this year and doubtless the subject has already been fully considered by the medical profession. The reprint states that "a large number of trained nurses are asking for protection and some means of organisation amongst themselves and control over their calling, and, further, that the medical profession demand a public inquiry on the simple and conclusive grounds that the present state of affairs is fraught with the gravest injury and danger to the public." Now, Sirs, I constantly meet a large number of the medical profession both in town and in the country and I have never heard of any such demand expressed, but on the contrary those whom I have consulted on the matter deny that there is any demand at all. Thus I venture to write and ask your views as to whether you consider that the Incorporated Medical Practitioners' Association is entitled to speak authoritatively in the name of the medical profession? It appears from the circular that a Dr. Hugh Woods is the president, Dr. Bedford Fenwick the president of the Council, and Mr. Frank Greaves the secretary—names that may be well known in the profession, but quite unknown outside of it to the general public.

The Royal British Nurses' Association, incorporated by Royal Charter, most carefully presided over by Her Royal Highness Princess Christian and otherwise influentially supported, appears to me to do everything that is required for the protection of the public and for the nurses themselves against imposture by unqualified ones. I should feel grateful for your opinion as the matter will shortly come before us in Parliament. I am, Sirs, yours truly,

Jan. 28th, 1898. G. B. HUDSON.

*** The Incorporated Medical Practitioners' Association is not entitled to speak authoritatively in the name of the whole medical profession. For all intelligent attempts on the part of the rank and file of the profession to obtain for themselves greater political freedom we have respect, but the views of certain of the leaders of this association upon nursing must be received with caution.—ED. L.

"THE LIMITS OF PROFESSIONAL SECRECY."

To the Editors of THE LANCET.

SIRS,—In your leading article in THE LANCET of Jan. 29th on the case of a man who died in Guy's Hospital after being stabbed you give the very important opinion: "We therefore consider that Dr. Perry" (the medical superintendent) "and the house surgeon acted in the only way in which they could have done either from the point of professional rectitude or that of expediency. It would be a sorry day for hospitals if it came to be known that they were, in addition to their health-giving functions, the portal to a criminal dock, and although the prevention, detection, and punishment of crime are matters which every good subject ought to have at heart such cases are not the objects for which hospitals were founded nor are their officers to be regarded as agents of the law." I so entirely disagree with you that I take the liberty of writing to say so and as I have for many years had special reasons for turning my thoughts to the dealing of criminals in the court-house and in prison I feel justified in expressing my opinion.

It is my firm conviction that no medical man in a case of murder has any justification in withholding professionally acquired evidence; and, further, that if he has a suspicion that a murder or manslaughter has taken place, or that a murder has been attempted, he ought to draw the attention of the proper authorities, leaving them to judge of the necessity for a public investigation. No medical man can have the right to fill the position of a judge and jury or in any way to compound a crime by keeping silence. I say, again, let him suspect that one has even been attempted and it should be his duty without fail to inform the criminal authorities whose business it would be to investigate. As for injured people being deterred from going, or from being sent, to a hospital because of the public knowledge that hospital surgeons and physicians are given to the common practice of reporting suspicious cases to the police I would say if it must be so it must be. If the injury is at all dangerous to life some medical man will see the injured one and the result should be the same. Let the offender hide himself if he can, but let it be commonly known that he will have no assistance from medical men. Hospitals and prisons are capital places for dangerous criminals (by committing minor offences) to hide in, but the officers of neither one nor the other should shield them.

I would not suggest that medical men should report purely suicidal cases. As you say, to attempt suicide is criminal, but the poor wretch if he recovers is in most instances sorry for his misdeed and if he does not recover a coroner's jury will find that he was temporarily insane. And let us so judge the ones who recover. A suicide only offends against himself except for defiling the place wherein he takes his life. He has not, as in the case at Guy's Hospital, attempted the life of a fellow creature. I think that attempted suicide is properly made a crime, for the law thus helps to prevent the offence becoming common. But that the offence should be punished by conviction is another thing. In this part of England I can say from my prison experience of many attempted suicides—and bad surgical cases some of them—that magistrates are content, after having dealt with would-be self-murderers by remanding them for a week or more, to dismiss them in the charge of their friends. Accordingly medical men do not act contrary to the spirit and the common-sense of the law if they refrain from informing the police of any case under their care. Last year I learnt from one of my prison patients, a Frenchman, that no notice was taken in his country of an attempt at suicide. He was much surprised at the behaviour of our police and I can add that he was, as many are, very delighted to get well from his self-inflicted wound, so English law has saved him to, we may hope, "ever after live happily."

A case which happened in this city about a year ago peculiarly illustrates my opinion with regard to a medical man's behaviour in the question of murder. A woman in company with a man in a cottage was stabbed in the left thigh, the profunda artery being cut through. The nearest medical man called in was the city coroner. He, I believe, did his best by cross-examination to ascertain whether the wound was self-inflicted or not and was led to understand that it was a case of suicide. The body of the woman, who died about twenty minutes after the injury, was taken to the hospital close by. The senior house surgeon, assisted by his junior, made a post-mortem examination, and he gave evidence at the inquest before the said coroner that the wound was self-inflicted. The junior house surgeon has recently told me that it has always been his strong conviction that the wound could not have been self-inflicted. At the time of his telling me I said that he ought to have offered his evidence to the coroner, that it should have been his duty to do so, and to have left the sifting of the evidence, whether the wound was self-inflicted or not, to the coroner and his jury.

I maintain I was right, although here we have the additional deterrent that he would have had the unpleasantness of presenting evidence totally at variance with that of his friend and his senior. Of course, hospitals were not founded, as you say, for the detection of crime. Nor were they founded for shielding crime, nor were hospital surgeons and physicians intended to act as harbingers of criminals. It is reasonable to expect a medical man to keep secret when injuries are self-inflicted, as in cases of suicides,

abortions, poisonings, &c., but not in cases of murder, manslaughter, rape, poisoning by another, burglary, &c.; and, I would add, it is not "a point of expediency" that they should. Such secrecy does not aid the protection of their fellow creatures which should be everyone's aim.

I am, Sirs, yours faithfully,

Canterbury, Jan. 28th, 1898. PUGIN THORNTON.

"THE MARKING OF INFECTED HOUSES."

To the Editors of THE LANCET.

SIRS,—Regarding the statements of Dr. George Woodward in THE LANCET of Jan. 29th respecting "placarding houses in which are contagious diseases" and that "such a custom would not be tolerated in England," together with your own observation to the effect that "the practice is, however, unknown in modern England," I beg to say that during an epidemic of small-pox in the Chesterfield Union in 1888 I had every infected house with this disease spotted above the front door with a placard printed in large red letters: "This house is infected with small-pox." On any fresh case coming to my knowledge I always took the bill-poster with me and under my own eyes every infected house was so marked and made conspicuous to the public and I am confident this warning was the means of keeping people away from the more immediate sources of danger and assisted considerably in abating the general outbreak at that time. I may add that I found no special objection to the practice either in the rural or urban districts, and it was continued until the epidemic disappeared from the union. So far as I know I was the first to adopt this practice in England if not in the United Kingdom.

I am, Sirs, yours faithfully,

ANGUS MACINTOSH, M.D. Glasg.,
Medical Officer of Health, Combined District,

Chesterfield, Jan. 29, 1898. Chesterfield Union.

THE LEGAL POSITION OF THE GENERAL MEDICAL COUNCIL AND THE MEDICAL DEFENCE UNION.

To the Editors of THE LANCET.

SIRS,—I am glad to find that Mr. Lawson Tait gives credit to the Medical Defence Union for continuing the policy initiated by the Council when he was President. In the suppression of unqualified practitioners wherever these may be found the Union has ever tried to do its duty; but that duty has been rendered harder and more difficult by the varied interpretations placed upon the Medical Acts by magistrates and even judges.

With regard to the question raised by Mr. Tait in reference to the "penal cases" brought by the Union before the General Medical Council the old fallacy of considering that august body as a legal tribunal is again brought to the front. The General Medical Council has a certain penal power granted to it by Act of Parliament and after "due inquiry" it has the right to erase "a name" from the Medical Register. This penal power does not make the Council a legal tribunal—it is merely a "domestic forum" sitting as a body of professional men to hear professional charges made against registered practitioners. It has no power to issue summonses for the attendance of witnesses, no authority to administer the oath, no right to "commit for contempt," and no jurisdiction over costs. It was considered by the Council of the Medical Defence Union some years back—Mr. Lawson Tait being president—that the charges of "covering" and unprofessional conduct could be presented before the General Medical Council better by a medical man than by a solicitor into a legal tribunal with all the attendant rights and privileges peculiar to a court of law. There it will be, of course, necessary to instruct either counsel or solicitors to appear in support of the charges incidental to these penal cases.

I am, Sirs, yours faithfully,

Devonshire-street, Portland-place, W. A. G. BATEMAN.

INTERNATIONAL LEPROSY LEGISLATION.

To the Editors of THE LANCET.

SIRS,—It has always been my opinion, and it is what I have been contending for several years, that an *international leper law* is absolutely necessary to solve the universal leper problem. Some authoritative international body must be appointed to establish that law with the power of the Governments behind it. I proposed that there should be an international committee and that it should promulgate rules binding on every Government. This proposition of mine was rejected by the Berlin Lepra Conference as inopportune. In its place an international leprosy society was recommended. This is the society which had Professor Virchow, a non-contagionist, as its first president. It will be a society on the model of all other medical associations of the kind—for instance, the New York County Medical Society, on the authority of which useful body the lepers of New York were turned loose. My proposition was that the German Government should invite every civilised country to send a delegate with powers to act in matters of leprosy, these delegates forming the international committee.

In no other way can international legislation be enacted and enforced. The menace to this country from leprosy is from South America, West Indies, China, Japan, and Norway. We are interested, therefore, in having these countries settle their leper problem. To settle our own is comparatively a trifling matter. But if these countries are remiss—as they will be without international regulations—they will import the disease into this country and that in spite of all the precautions by which we may endeavour to defend ourselves. The infected bodies will come before the disease has broken out when it is still in a state of incubation. These men, thus unwittingly carrying into our country the hidden germs, would under the rule of a rational law have been kept aloof from contamination or if they had been exposed to it would have been kept under surveillance for a certain number of years by a board of health. Of course, a member of a leprous family would always be under the suspicion—that is, unless he had passed in healthy circumstances the maximum of the period of incubation. No man from a leper country would be permitted to emigrate without a clean bill of health. It would be a penal offence for a steamship company to carry a passenger from a leper country without this certificate.

The West Indies offer one interesting instance. Beaven Rake found in his asylum in Trinidad of 216 patients 74 Hindu coolies and he asks the question—Where do they get the disease? "We are told," says he, "that there are 250,000 lepers in India and it is therefore hardly fair to suppose that all the Hindus who develop leprosy in Trinidad become infected here. It is far more likely that in some or many of them the disease is already incubative when they land here, though it may not be evident enough to ensure rejection after medical examination." This proves clearly that a purely national law would not suffice for our protection. That law would control lepers at home and prevent the introduction of visible, evident cases; but as long as, by international agreement, the departure of dangerous people for these shores is not made impossible the peril cannot be conjured.

The international method is in operation to-day in Hawaii against Japanese and Chinese importation and it has served to keep in Japan, in 28,000 emigrants, all but four lepers who were sent back. There are in Molokai at the present moment only two Japanese lepers. Yet not only has Japan 23 647 registered lepers, but three times that number who have not been registered. It would be well if we adopted this Hawaiian leper-law; it is better than the Norwegian, which the Congress of Berlin sanctioned, but which is not complete enough. This mixed law of Norway has served only to transfer the leprosy problem of Europe to America. 175,000 Norwegian emigrants, many or most of them of leprous families, have come to our north-west and have constantly to be watched; 147 of them imported leprosy. Several things in the conclusions of the Berlin Congress, I may say in passing, were the result of compromise.

I am, Sirs, yours faithfully,

New York, Jan. 24th. ALBERT S. ASHMEAD, M.D.

THE SPREAD OF PUERPERAL FEVER: A SCHEME.

To the Editors of THE LANCET.

SIRS,—Excuse me troubling you for your opinion and advice on the following matter. In this borough we have a good many cases of puerperal fever. I do not say we are worse or better than other like places. I have long come to the conclusion that the midwives carry the disease about. There

are perhaps three dozen in the town and only two to my knowledge have had any instruction. I have proposed at different times to some of my *confrères* that we should bring the midwives together, instruct them in the use of antiseptics, giving each a certificate and extending our help and support to them. To those who refused (if any) we would simply say that they were acting at their peril and had not our cognizance and moral support.

Some of my *confrères* think the plan feasible, others fear it would not receive sufficient support all round. I feel confident I can get all to join in giving me their help, though probably some would refuse to take or, rather, neglect to take any active part. Fearing a failure from the above cause I have thought that could we get the initiative to come from outside the profession our position would be much strengthened, and I have little doubt but that we could soon get a strong party of ladies of influence and intelligence to make a move. I do not wish to trouble you with detail and I have also a feeling that you will say this is a subject which requires treatment by higher powers, &c. In reply to such a suggestion I would say that it is a severe trial to attend at the bedside of strong young women in the prime of life feeling that you are comparatively helpless and knowing that the complaint which is killing them is one that might have been prevented. I say it is a severe trial to wait with patience till the powers that be come to your aid, and it is much harder still if there is any chance of success by one's own efforts. If you will kindly let me know what you think of the scheme I will be very grateful. Hoping I have made it sufficiently clear, I am, Sirs, yours faithfully,

Heywood, Lancs, Jan. 29th, 1898. THOMAS LAIRD.

*** So far from advising practitioners to wait for the action of higher powers we are always urging them to deal with such matters for themselves as promptly as possible. We think that such a meeting of the medical men of the locality would be a most sensible proceeding and do not see how anything but good could come of it. It seems to us that proper nursing with antiseptic precautions by fit people under the ægis of the medical profession would follow, and we do not think a better sequence could be desired. The success of the scheme depends on the unanimity of the profession in the neighbourhood.—ED. L.

"THE OPERATIVE TREATMENT OF CLEFT PALATE."

To the Editors of THE LANCET.

SIRS,—I read with much interest Mr. Edmund Owen's clinical lecture under the above title in THE LANCET of Jan. 29th and was pleased to learn that he practises in favourable cases closure of the palate during infancy. The chief object, I take it, in closing a cleft palate is to render the powers of speech more perfect than they otherwise would be and if the operation is postponed (as usually recommended in surgical text-books) until the third year of life or later the child by that time has probably learnt to talk and necessarily to talk badly, a habit once acquired very difficult to overcome completely.

At a recent meeting of the Liverpool Medical Institution I brought forward several children whose palates I had closed some three or four years ago. Their ages at the date of operation varied from eight months to eighteen months and the clefts involved the soft and part of the hard palate. These children now talk in a perfectly natural manner, it being quite impossible to detect from their speech that they ever had cleft palates. Mr. Owen and other surgeons have doubtless had a similar experience.

I am, Sirs, yours faithfully,

R. W. MURRAY, F.R.C.S. Eng.,
Surgeon to the Liverpool Infirmary for Children.

Liverpool, Jan. 31st, 1898.

THE NOTIFICATION OF INFLUENZA.

To the Editors of THE LANCET.

SIRS,—May I ask you why no means are taken to check the spread of the most contagious, widely-spread, and formidable epidemic—viz., influenza? One cannot take up a paper or consult any friend without seeing or hearing of someone being either ill or dead or permanently affected by that dreadful disease. It is quite a common case to hear invalids say, "Never the same since the influenza." From 50 to 100 deaths weekly in London are directly due to influenza, besides those who recover, very many of them being permanently invalided, is no small matter. Those recovering from influenza (which is most undoubtedly highly contagious and often contracted severely by almost momentary contact with very slight cases) are allowed to go travelling about, to concerts, theatres, churches, and elsewhere; while those recovering from scarlet fever, measles, and suchlike complaints would be heavily fined (which has had a very desirable effect). Why cannot this fearful scourge be included in the Notification of Infectious Diseases Act and treated accordingly? I expect that will be the only way of checking the vast amount of misery and loss of life this disease causes and the sooner it is adopted the better.

I am, Sirs, yours faithfully,

Worcester, Jan. 31st, 1898. W. WOODWARD, M.D. St. And.

AN APPEAL FOR ASSISTANCE.

To the Editors of THE LANCET.

SIRS,—I venture to appeal through the columns of THE LANCET to the charitable of our profession for financial aid in a most deserving case. Mrs. Tickler, of Cavendish-road, Harringay, is both aged and infirm; she is the widow of a Lincolnshire surgeon, who died about ten years ago, leaving her but poorly off, so that she has practically great difficulty in making ends meet. Her two daughters give her such aid as they can, but their occupation is not very constant or remunerative.

I shall be pleased to start the list by a donation of two guineas and also to act as Treasurer, should you wish it, due acknowledgment being made through your columns.

I am, Sirs, yours faithfully,

JOHN HUTTON.

2A, Harringay-gardens, Green Lanes, Feb. 1st, 1898.

"TREATMENT OF PNEUMONIA BY INHALATIONS OF OXYGEN GAS."

To the Editors of THE LANCET.

SIRS,—The case reported by Dr. Alex. M. Erskine in THE LANCET of Jan. 29th is not without interest as showing what can and what cannot be done by the inhalation of oxygen, but I think that the result might have been predicted without making the experiment. If the patient had been promptly and sufficiently bled—say, 15 or 20 oz., repeated if necessary—instead I am confident that much better results would have been attained and more easily. The woman's serious condition would have been speedily relieved and in all probability she would have recovered, being "a strong, healthy woman." I could cite several instances in corroboration of what I say and I believe that nothing is so efficacious as venesection.—I am, Sirs, yours faithfully,

F. LUCAS BENHAM, M.D., M.R.C.P. Lond.

Elizabeth-street, S.W., Jan. 29th, 1898.

"A CASE OF JEALOUSY."

To the Editors of THE LANCET.

SIRS,—The case of morbid jealousy so graphically described in THE LANCET of Jan. 22nd by Dr. William O'Neill opens up many points of sociological, psychological, and medical interest. Jealousy, it should be noted, does not arise out of physical love alone, being common in children and in grown-ups unsusceptible of this form of love. In the unmarried it seems to be about equally developed in either sex, but after marriage it is much more pronounced among the women, and this not because they have a greater disposition to it but because the provocation is greater in their case. As I have pointed out in my "Differences in the Nervous Organisation of Man and Woman," man is descended from polygamous ancestors and to pretend that he does not still

retain a large measure of the polygamous instinct is to wilfully shut one's eyes to facts. Woman, on the other hand, is essentially a monogamous being, and it is probably largely owing to this fact that monogamous marriage prevails among civilised peoples. The human race, I take it, is now passing from a polygamous to a strictly monogamous era. At the present time there is a clashing of opposing instincts, with much resulting social disaster, but in process of time we may expect the monogamous instinct in man to be as powerful as in some of the lower animals. Now the emotion of jealousy is playing a large part in affecting this consummation, for although when inordinately developed in the woman it may actually drive the man to inconstancy by causing a constant breach of peace at home it for the most part operates in the opposite direction, for if the woman were indifferent to the man's inconstancy the path of inconstancy would be made easier for him than would otherwise be the case. Woman's jealousy is, in fact, a tremendous social power and one which has been strangely overlooked by the sociologist. As showing its extreme frequency, I may mention the fact that a barber's assistant recently informed me that he did not intend to marry; he had, so he said, seen too much of married life in others to be greatly disposed to embark upon it himself, for in all the five families in which he had lived as assistant the wife had been a veritable Mrs. Snagsby.

The subject of jealousy is equally interesting from the psychological standpoint. I have never been able to understand its mode of evolution; we seem to be as ignorant in this respect as we are of the evolution of the artistic temperament, neither of which can have evolved by natural selection. Is it not a remarkable fact, I may here ask, that one person should be so greedy for the *sole* love of another? I do not mean physical love, but love of any kind. If men had reached the highest ethical standard they would presumably all love one another equally. Must we not regard the inability of one individual to intensely love more than one or two others as a psychological defect? Nevertheless it is a defect which many a noble character would not willingly see corrected. This is one of the many arguments which could be advanced in favour of the view that man in his present stage of psychic evolution is imperfectly equipped for a realm of perfect bliss and requires to pass through a series of higher and higher evolutions before attaining to his highest destiny.

Nor are the phenomena of jealousy less interesting from a medical point of view. The inordinate development of this emotion always betokens a neurotic diathesis and not infrequently indicates the on-coming of insanity. It is responsible for much useless suffering and not a little actual disease, as Dr. O'Neill does not fail to point out.

I am, Sirs, yours faithfully,

Wimpole-street, Jan. 22nd, 1898. HARRY CAMPBELL.

ST. JOHN AMBULANCE ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—The St. John Ambulance Association propose to institute a course of home hygiene and in place of making use of the assistance of a qualified medical man to lecture have made regulations for the examination of "secretaries and executive officers of centres and class secretaries, the clergy, school teachers, county council lecturers, and all who are willing to occupy a portion of their time in spreading useful knowledge" for lecturers' certificates. It is further stated that "the attendance at a course of lectures before examination for a lecturer's certificate is not compulsory." The course consists of ten lectures of an hour and a half each and the honorarium is the magnificent sum of £5. I hope that a decided stand will be made by all branches against this innovation, which is a departure from the rule of the Association only to employ registered medical men. The branch of which I am chairman has sent the following resolution to the head office and I hope that others will follow our lead.—I am, Sirs, yours, faithfully,

BERTRAM M. H. ROGERS,
Chairman of the Bristol Centre of the St. John
Clifton, Feb. 2nd, 1898. Ambulance Association.

Bristol Centre St. John Ambulance Association.

The Executive Committee think that the proposed employment of lecturers other than medical men, who have always hitherto officiated in that capacity, to conduct classes in hygiene in connexion with the Home Hygiene course is much to be deprecated and cannot be done without loss of prestige to the St. John Ambulance Association.

TITLES OF BOOKS PUBLISHED 1890-1897.

To the Editors of THE LANCET.

SIRS,—We are preparing to publish early in the spring Volume V. of the "English Catalogue of Books," 1890-1897. As we wish to make it as complete as possible may we ask those of your readers who have published books between Jan. 1st, 1890, and Dec. 31st, 1897, for the full titles, sizes, prices, month and year of publication, and author's and publisher's names, to be sent as soon as possible, addressed to Editor, "English Catalogue of Books"?

We are, Sirs, your obedient servants,

SAMPSON LOW, MARSTON & CO., Limited.

St. Dunstan's House, Fetter-lane, London.

P.S.—Particulars of books which have already appeared in the annual volumes of the "English Catalogue of Books" are of course not required.

THE PLAGUE IN INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

WHILE plague is raging with all fierceness in Bombay an unfortunate difference in policy seems to actuate the municipal body and the Plague Committee. Last year when the outbreak assumed such large dimensions practically all sanitary measures for dealing with the disease were taken out of the hands of the municipality and a Plague Committee was formed with full powers for dealing with it. This committee has elaborated a great organisation for inspection, disinfection, and segregation, but the disease still holds sway and the recrudescence now existing seems to exceed in virulence and extent the original outbreak. During the interval the preventive inoculation of M. Haffkine has been largely practised at Mora, Damaun, Kirkee, and Lanowli. The results have proved extremely satisfactory. On the strength of these the municipality is actively moving and has established six inoculating stations, while curiously enough the Plague Committee has taken no action at all on this line and even refuse to devote any of its funds to this purpose. This want of union at a time of disaster is most lamentable. As a scientific tactical move the municipality has scored, because there is little reason to doubt that the successful results of inoculation will be repeated, while the Plague Committee has tied itself to the extremely difficult work of discovery of cases and segregation of contacts, which is not only most unpopular but can hardly be said up to date to have produced any favourable results whatever. Meanwhile the deaths in Bombay number nearly 1000 over the usual weekly average, the rate being 81·18 per 1000 as against the average death-rate of 43·59 per 1000. The registration of deaths is very unsatisfactory. The attendants at the cemetery are permitted to accept any cause of death which may be stated by the friends with the result that all sorts of diseases are registered instead of plague, in consequence of the systematic resort to concealment and the deception which is so largely practised. The only guide thus left is the amount of the total mortality above the average. It is proposed, however, to give the committee power to compel registration of death with the district medical officers.

In most places other than Bombay the plague seems on the decline. The city of Poona, which was so devastated not only by the primary outbreak last spring but by the recrudescence in the later period of the year, is now rapidly clearing itself and measures are being taken to disinfect all those who return to the city after their flight during the past year. For this purpose a cordon is placed round the city with disinfecting sheds at the chief road entrances and also at the station.

Jan. 14th.

AT the meeting of the Newport Board of Guardians held on Jan. 25th it was decided to take steps to obtain a loan of £38,000 for the reconstruction of the workhouse.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday Collections.

THE Lord Mayor (Councillor Beale) has issued a circular to the chairmen of all the hospitals and other charitable institutions in the city participating in the Hospital Sunday collection which embodies a very important suggestion. Hitherto the collection in each year has gone in turn to the General Hospital, the Queen's Hospital, and the amalgamated charities, so that for each it is a triennial one. He now proposes that this system should be abolished and that the yearly contributions on Hospital Sunday should be divided equally among these three charities. He points out that from a business point of view the income will be paid over annually and will entail less bookkeeping and clerical work; that all the charities will be equally affected by local conditions of trade and other demands; and that the alteration will put the whole subject upon a broader basis, abolishing any spirit of competition or jealousy and emphasising the public obligation towards the charities generally rather than the claims of any one institution as compared with those of another. The question is essentially a practical one, which no doubt will be benefited by open discussion.

Singular Illness at Hatton Asylum.

A remarkable number of cases of serious illness have occurred among the residents and guests who were present at a ball given at the asylum on Jan. 21st, one of the nurses succumbing to the effects. Many vague rumours arose in the district as to the origin of the illness and the coroner opened an inquiry on Jan. 29th, in which the fatal case was considered. Evidence having been given as to the previous health of the nurse, aged thirty-six years, the coroner said that acting on the instructions of the Home Office the stomach and various portions of the internal organs would be sent to Dr. Stevenson, of Guy's Hospital, for analysis; the inquest was therefore adjourned until Feb. 18th. It is stated that about a hundred persons were affected. A public investigation is deemed necessary in the face of the peculiar symptoms presented by many of the patients and the conflicting explanations suggested by various authorities.

Feb. 1st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Water-supply.

THE Waterworks Committee of the Manchester Corporation have had under consideration the circular letter of the Local Government Board calling attention to the water-supply. In the autumn of 1894 various complaints were made as to the quality of the water supplied to certain districts and the committee decided to obtain an independent examination and report. Professor Dixon and Professor Delépine were appointed on the recommendation of Dr. Ward who was then the principal of Owens College to carry out this work for the committee. They were given a perfectly free hand and were authorised to print their report without conference or consultation with any members of the Waterworks Committee or officials. In January, 1895, they reported that they had personally collected from the mains samples of the water representing all the reservoirs supplying Manchester. No bacteria associated with infectious diseases could be found in any of the samples examined and the chemical examinations also showed that there was no sewage contamination. A copy of this report has been forwarded to the Local Government Board with a statement that attention has been in the past, and will be in the future, directed to the subject of the water-supply of the city. The complaints as to the water in certain districts arose from some local inattention to the pipes in most cases, but some years ago there was a somewhat general outcry that the water from some of the reservoirs had a "fishy" taste, and this illustrated in a very pretty fashion the result of what is called disturbing the balance of nature. It was found that water-snails had increased to an enormous extent, for there was nothing to check this increase. There were no fish, and the chemist of the corporation, who was also an accomplished angler, advised the introduction of trout, with the result that in a comparatively short time this unpleasant taste disappeared and the complaints ceased. It need scarcely be said that the condition of the water is carefully watched, for the excellence of its water-supply is a matter as to which the corporation thinks itself fairly entitled to credit.

The Recent Attempt at Blackmailing: Sentence on the Offender.

In November last, it will be remembered, an impudent attempt was made to levy blackmail on Dr. Leslie Jones, a well-known and respected member of our profession in Manchester, by letters containing the usual scandalous imputations and threatening exposure if £50 were not "lent" to the writer, a clerk in the service of one of the railway companies. Dr. Jones handed the letter to the police, who arrested the man when he went to get an answer at an office he had named, and he was tried at the recent assizes. Counsel spoke of the prisoner's previous good character, to which witnesses bore testimony. It is singular that some of the vilest crimes are committed by those who have for years borne fair characters and according to their friends are examples of all the virtues. The judge said the offence of which the prisoner had pleaded guilty was one "so mean, so cruel, so wicked, and so dangerous to society that it was impossible to pass a light sentence," and he was condemned to be kept in penal servitude for three years. The prisoner declared through his solicitor that there was not a shadow of foundation for the charges he had made, and the profession generally is indebted to Dr. Leslie Jones for dealing so courageously with a terrible situation.

The Ladies' Health Society.

The Ladies' Health Society is one of the most practical and useful agencies that Manchester possesses for the diffusion of sound knowledge among the poor on matters concerning health. At the annual meeting, held at the town-hall on Jan. 18th, the report showed that last year had been one of good work but not of expansion for lack of means. The town is divided into districts under the active supervision of various ladies who give much of their time and energy to the services of their poorer sisters. But a most important feature of the scheme is that resident in each district is a "health visitor," an intelligent, well-instructed, and kindly woman of the working class who knows the difficulties of the wives and mothers living around and can enter into them more really than the best-intentioned "lady" visitor, for whom she is a sort of non-commissioned officer. As the report says, "These excellent servants of the society become more useful the longer they live among the people they desire to help, and a new health visitor, however great her tact and willingness, is surrounded by a sea of troubles." Some portions of the town are well covered but others are without this beneficent help for "the want of a sufficient income." Ladies can be found to give their superintendence, health visitors can be found, but it seems hard to get the money required for extending the work. The reports of the medical officers of health for both Manchester and Salford show high appreciation of the society. As Miss Dendy said at the meeting, the society aims at getting people to help themselves and not merely to give help and would rather teach fifty parents to care properly for their children than provide 5000 children with a free meal and call them "robins"—"their wise parents seeing the folly of providing food for children who were so well looked after without their aid. It was a beautiful idea to feed hungry children; carbolic soap, whitewash, cleanliness, lectures on health and morality, these were all desperately dull in comparison." It is too true that the almost useless and, as regards self-help and a sense of duty, absolutely hurtful intermittent charity so-called of free meals may relieve immediate suffering, but at the cost of perpetuating the evils from which it arises. This society aims at the prevention and cure of these evils and is worthy of more generous support than it has yet received from the people of Manchester.

Feb. 1st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Royal Infirmary, Newcastle-upon-Tyne: Mr. Riley Lord's Fund.

A MEETING of the subscribers to the Queen's Commemoration New Infirmary Fund was held in the Council Chamber, Town Hall, Newcastle-upon-Tyne, on Wednesday, Jan. 26th, Mr. Riley Lord being in the chair. When the report of the Executive Committee was read it appeared from the report that upwards of £32 000 had been received. Mr. Lord was warmly congratulated upon the success of his scheme and then a discussion took place upon the terms of Mr. J. Hall's gift. Mr. Eccles said Mr. Hall's terms were very simple and he thought a hospital such as it was required and necessary to erect could be built for the sum of money Mr. Hall was prepared to give—£100,000. Mr. Eccles evidently thought the sum sufficient. Mr. J. G. Gurney said he had gone into details of the cost of several new hospitals and that he found the cost of none was under £400 a bed; in some cases it was much more. Matters now seem to have come to something very like a deadlock. A hospital for 400 is required and Mr. Hall wishes to expend £100,000 in building a hospital which it is said cannot be put up for the money under the stated conditions. Any sensible person would say under these circumstances that the donor and the recipient should come together and talk the position over, but this is just the very thing that cannot be brought about and so the matter lingers on. In the meantime the conditions under which the work of the infirmary is being carried on are most unsatisfactory and discreditable, the wards are overcrowded, the accommodation for outdoor patients is scandalous, and the longer the erection of new premises is delayed the greater does the inconvenience become. No such difficulties seem to have been experienced in accepting Sir J. B. Maple's princely gift by the University College Hospital in London.

Fatal Fire in Greaseworks at Walker Gate.

The resources of the Newcastle Infirmary were strained to the utmost on Saturday evening, Jan. 29th, when a large number of people more or less severely injured and burned were attended to in the course of a few hours. One man was killed on the spot. A woman was admitted suffering from compound fracture of the leg and other severe injuries. Some twenty-seven men, youths, and children were also admitted more or less burned and seriously hurt. One man died on Sunday; the other patients are so far going on fairly well. Besides the patients taken into the hospital many others were dressed at the infirmary and a still larger number at the scene of the disaster by local medical men. It is not known how the fire originated, but the disastrous results were due to the bursting of a large iron tank containing it is said some sixteen tons of creasote oil which, taking fire, was scattered far and near upon the crowd of onlookers by the force of the explosion. The scene was a discreditable one—there was not sufficient force present to preserve discipline and this arose from the circumstance that Walker Gate is beyond the city boundary, and the Walker Local Board having refused to subscribe to the Newcastle Fire Brigade the services of that highly efficient body of men could not be obtained. Neither could the Newcastle police force be utilised. Nothing could illustrate more forcibly than this terrible accident the want of accommodation at the Royal Infirmary. The wards were as usual filled when the accident happened and now the wounded are lying on the floor of the wards and there is no means of isolating what will be in a few days a large number of suppurating wounds. Those who are responsible for the delay—the dangerous delay—in erecting a new building must to some extent be looked upon as also responsible for consequences. Had not the present deadlock occurred the plans for a new building would have been well on towards completion. As it is it seems problematical when they will even be commenced to be prepared and yet more than £200,000 are available for building a new infirmary.

Annual Meeting of the Governors of the Hospital for Sick Children, Newcastle-upon-Tyne.

The annual meeting of the governors of this hospital was held on Wednesday, Jan. 26th, when Mr. W. A. Watson Armstrong presided. The annual report, which was read by the secretary, revealed a state of things very similar to that existing at most of the medical charities in the town—viz., an increasing amount of work and an expenditure in excess of the income. It is proposed to build in the grounds of the institution a house in which the nurses may reside. To do this will require an expenditure of £2500. If this were done (and it requires to be done, for the present accommodation for nurses is so inadequate that it is difficult to procure the services of such nurses as the committee is anxious to employ) there would be more room for the increasing demand for patients' beds. The design and construction of the hospital do not seem to have been by any means perfect; the drainage has had to be relaid and according to a report made upon the hospital a few years ago by Sir F. Burdett the accommodation for patients was faulty. Considering that the hospital is quite new the expense to which the committee has been put is surprising, and still more surprising is it to see the amount of money which has been wasted in construction. What has taken place at the Children's Hospital should be a warning to the Royal Infirmary. The Children's Hospital was built and given to the town by the late Mr. Flemming, and a gift horse must not be looked in the mouth it is said.

Small-pox at Middlesbrough.

The vaccination officer reports a serious outbreak of small-pox in Middlesbrough. There have been 40 cases with 8 deaths and the epidemic is extending. The town is a well-vaccinated one on the whole.

The Health of Dr. Embleton.

It will be a source of gratification to the numerous friends of Dr. Embleton to learn that he is making a satisfactory recovery from his recent accident and that in a few days he hopes to be able to drive out. Dr. Embleton is the Nestor of the profession at Newcastle and is in his eighty-ninth year.

Jan. 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow University.

THE resignation of Professor Simpson has now been officially recognised by the University Court and it is intimated that the Secretary for Scotland is willing to receive the names of those who desire to be regarded as candidates for the appointment up till Feb. 22nd. The University authorities are desirous of taking this opportunity to separate the departments of forensic medicine and public health and to secure the appointment of a professor of the latter subject and hence it is probable that the commission to be granted to the new professor of forensic medicine will contain conditions necessary to this policy. At present the University has no funds for the endowment of any new chair but a special effort is to be made in order to effect a proper representation of the important subject of public health in the teaching and work of the university. Hitherto the teaching has been shared between the professors of forensic medicine and chemistry, but this has been an unsatisfactory arrangement. The senate has elected Dr. Michael Foster, F.R.S., D.C.L., professor of physiology in the University of Cambridge, to be Gifford Lecturer on Natural Religion for the sessions 1898–99 and 1899–1900, in succession to Professor Bruce, whose term of office expires with the current session.

St. Mungo's College, Glasgow.

The botanical collection recently formed by Dr. James Swanson, professor of botany, has been increased by a large number of specimens presented by Mr. F. W. Moore, director of the Botanical Garden, Glasnevin, Dublin.

Glasgow Royal Infirmary.

The annual meeting of the subscribers to this institution was held on Jan. 31st. The Lord Provost, who presided and moved the adoption of the report, announced that every effort was being made to push forward the scheme for the reconstruction of the infirmary, but more funds were needed to make a full realisation of the scheme possible. The committee were determined to completely reorganise the internal arrangements of the hospital so as to bring them into harmony with modern demands,

and money is not to be wastefully expended on outside decorative effects. The report shows the usual particulars and, it must be added, the usual balance on the wrong side of the account. It announces the decision of the directors to regard women as eligible for the assistantship in the gynæcological department and certain new arrangements by which the opportunities of the women students for clinical work will be increased.

Anderson's College Medical School, Glasgow.

Mr. Joseph Carroll, M.B., C.M. Glasg., D.P.H. Cantab., has been appointed lecturer on hygiene and public health at this school in room of the late Dr. J. Pearson Munro. Dr. Carroll has been for the past ten years medical officer of health for the borough of Ilkeston. He has lectured on sanitary subjects for the Derbyshire County Council, and has been for some years a member of the county health committee.

The Detection of Disease in Aberdeen.

An arrangement has been entered into between Professor Hamilton (chair of pathology) of the University of Aberdeen and the town council of that city whereby the former undertakes to conduct bacteriological examinations in all cases brought before him where infectious disease is suspected, the payment to be £120 per annum, and neighbouring local authorities to be allowed to participate in the benefits of the new system on contributing such portion of the sum of £120 mentioned as may be mutually agreed on. Professor Hamilton gives his personal services gratuitously, and the sum voted by the town council is to be expended in payment of a special assistant and of necessary laboratory outlays. Medical practitioners in the city have been requested to report any suspicious cases occurring in their practice.

Forres Leanchoil Hospital.

The number of patients treated last year was seventy-eight, the revenue received amounted to £491 odd and the expenditure to £618. Owing to large expense for new railing and gates and for levelling the ground the funds in hand on Dec. 31st, 1897 (£4596) showed a decrease of £396 compared with the previous year. The subscriptions for the past year amounted to £764 odd.

Feb. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Sir Christopher Nixon on Medical Education.

THE address delivered by Sir Christopher Nixon as incoming president of the Dublin branch of the British Medical Association dealt with the subject of medical education and examination and expressed in a clear and interesting way the opinion of its author on that subject. What was wanted, he said, was "an examination for each division of the kingdom conducted independently of the universities or corporate bodies, having no connexion with any existing institutions, ensuring a uniform standard of professional knowledge, and qualifying for a registrable licence to practise medicine, surgery, and midwifery." Sir William Stokes, in moving a vote of thanks for the address which had been delivered, joined issue with the president as regards some of his proposals, and suggested grave doubt as to whether the one portal system for each division of the United Kingdom would lead to a uniformity of standard, inasmuch as it would still be said that the English, Scotch, or Irish Board was less difficult or more difficult to please than its neighbours. He also alluded to the difficulty in obtaining any uniformity as regards fees for lectures and examinations, a matter outside the jurisdiction of the General Medical Council.

The Pigeon House Fort as an Auxiliary Workhouse.

A special meeting of the Dublin Corporation was held on Jan. 28th, to consider another application from the guardians of the South Dublin Union for the temporary use of a portion of the Pigeon House Fort for the accommodation of some of the convalescent inmates of that union. It will be remembered that the Fort was first asked for as an isolation hospital for infectious diseases. The guardians recently have applied for the submarine portion of the building as an auxiliary workhouse. The scheme was brought forward by Sir Robert Sexton with his usual ability but the proposal was rejected by a large majority. The deadlock in the matter therefore continues and will probably soon necessitate the interference of the Local Government Board.

Electrical Tramways in Merrion-square, Dublin.

A letter has recently been addressed to the chairman and directors of the Dublin United Tramways Company by a large number of the householders of the north side of Merrion-square suggesting that in laying the new line of electric tramways they should be placed at the side next the square gardens and as far as possible removed from the fronts of the dwellings. The side of Merrion-square is a favourite residential quarter, more especially for medical men, who constitute more than two-thirds of its inhabitants. Freedom as far as possible from the noise of traffic is to them a matter of much moment, and it is to be hoped that the Tramways Company will see their way to adopt the suggestion.

University Education in Ireland.

We are at present in the throes of a discussion on the *quæstio vexata* of Irish university education, the newspapers containing leading articles and letters on the question. On Jan. 31st a meeting in support of the establishment of a Roman Catholic university for Ireland was held in Belfast. Dr. Henry, the Roman Catholic bishop, who presided, formulated the claim of his body by demanding the establishment and endowment of a Roman Catholic university for the youth of his religion. Dr. Dempsey, Colonel Ross-of-Bladensburg, Lord Emly, Mr. Samuel Young, M.P., and others spoke.

Herbalists' Medicines.

An inquest was concluded in Belfast on Jan. 31st in reference to the death of a man which occurred on Jan. 9th under curious circumstances. It would appear that the deceased was accustomed to suffer from attacks of pains in the stomach, for the relief of which he took a bottle, called "Baird's hot bottle," supplied by a man of that name, a herbalist. It was a universal medicine "taken for everything external or internal." The deceased becoming suddenly ill on the morning of Jan. 8th his wife went after a few hours for a bottle of medicine to Baird's and gave her husband some of it. Later on, as he got worse, she went for a medical man and after he saw the man he brought another practitioner and they took the bottle away with them. The man died the next day and the medical man having refused a certificate the police took up the case. A chemical examination revealed that the medicine was a solution of ammonia and water tinged with a trace of chloroform, alcohol, and a minute quantity of essential oils. A post-mortem examination made by Dr. Lorrain Smith, lecturer on pathology at Queen's College, Belfast, showed that there was acute peritonitis depending on the bursting of an ulcer of the stomach. There was also renal disease. Dr. Smith's evidence was that the treatment deceased had received was not proper treatment, though he could not go so far as to say that the taking of the contents of the bottle accelerated death. The jury found a verdict of "death from peritonitis" and attached no blame to anyone. The coroner, in his summing up, said if the jury wished him to draw the attention of the Pharmaceutical Society to the practice of unqualified persons making up medicine he would do so, but they declined. The coroner said that being so he would do so himself.

The Belfast Hospital for Sick Children.

At the annual meeting held on Jan. 28th it was reported that during 1897 there were 312 intern and 7013 extern cases. There was a distinct falling-off in the number of out-patients owing to the fact that medicines are no longer supplied. The class for students was the largest for many years. A sum of £1000—a jubilee fund—was collected for the endowment of the hospital. The year closed with a credit balance of £204 12*s.* 3*d.* Mr. Mackenzie, on his retirement from the post of surgeon, which he had held for nineteen years, was appointed on the consulting staff, and Mr. Stack resigned on his leaving Belfast. To these vacant offices Dr. J. S. Morrow and Dr. Kirk were promoted, their posts being filled by Dr. Robert Campbell and Dr. Lynass. During the year Dr. Lorrain Smith has been appointed pathologist.

The Samaritan Hospital, Belfast.

From the report submitted to the friends of this hospital at the annual meeting held on Jan. 26th, I find that in 1897 731 cases were treated in the extern and 181 in the intern departments, and of the latter 25 were free. There were 127 operations, of which 18 were abdominal, with three deaths.

During the building of the new wing, erected by the munificence of Mr. Forster Green, and opened on May 28th, 1897, the work of the hospital was necessarily suspended in part, but the additions and improvements will prove of great value. The household expenditure, including surgical material and medicines, amounted to £436 7*s.*, while the contributions from the intern patients were £330 18*s.*

A Lady Official.

Miss Strangman, who had been for some time clinical assistant at the Cork Lunatic Asylum, was unanimously appointed assistant medical officer at the last meeting of the Board of Governors.

Feb. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Uses of Bleeding, Emetics, and Blisters.

AT the meeting of the Academy of Medicine which was held on Jan. 25th M. Robin pleaded hard for a revival of the use of three therapeutic agents which have almost completely dropped out of use at the present day—namely, bleeding, emetics, and blisters. In cases of pneumonia, uræmia, and morbus cordis the letting of blood increases nitrogenous changes in the tissues, increases the oxidation of the products of disintegration, and assists chemical action in the nervous system. It also increases to a considerable degree the changes brought about by respiration and is a method of general oxidation which should not be neglected in cases of cardiac weakness, pulmonary œdema, malnutrition and toxæmia. Emetics in the treatment of pulmonary diseases are gradually being replaced more and more by antisepsis of the bronchi, but it must not be forgotten that besides their action upon the respiratory tracts emetics have an oxidising effect consequent upon the increased respiratory movements which they bring about. This action of emetics upon chemical change in the tissues was a reason for M. Robin to urge their reintroduction into practice, and he considered that emetics were just as useful in bronchial affections as purgatives in gastro-intestinal cases. As for blisters M. Robin agrees with M. Ferran and considers that they augment phagocytosis and increase nervous influence. They also aid respiratory movements and have an undeniable action upon respiratory chemical action which M. Robin considers very useful in pulmonary congestion, pleurisy, and pneumonia. M. Trasbot held that bleeding and emetics were excellent therapeutic agents in veterinary medicine. M. Huchard agreed with M. Robin as to the value of bleeding and emetics, but with reference to blisters he considered that there were several objections to their use and that these ought to be clearly set forth in the interest of patients themselves who often clamoured for the application of blisters, and that there were cases where their use would be very doubtful or even might be attended with fatal consequences, while M. Laborde pointed out that blisters sometimes brought on nephritis.

Expansion of the Right Auricle during Inspiration demonstrated by the Radioscope.

At the meeting of the Academy of Sciences held on Jan. 24th M. Bouchard reported the following interesting observation. He was examining the thorax (from the back) of a young girl whose right lung was slightly affected with a tuberculous infiltration, and he saw a convex projection which at certain definite intervals appeared to the right of the shadow thrown by the vertebral column in the place corresponding to that thrown by the heart to the left of the column. By following the movements of this projecting body, which did not correspond with the proper movements of the heart, and by comparing them with the up-and-down movements of the liver during respiration M. Bouchard decided that the shadow came out to the right when the liver sank and went back when it rose again. By making the patient turn her body slightly so that the left shoulder was somewhat in the rear of a line drawn through the transverse axis of the pelvis, M. Bouchard saw more distinctly the mass of the auricles and also their special movements. The increase in size of the auricular mass was quite plain during the sinking of the liver—i.e., during inspiration. In two other patients, the one with slight infiltration of the right apex and the other with a more extensive consolidation of the left apex, M. Bouchard was unable to arrive at the same results. He followed up these researches by examining two women suffering from asthma, but only in one was he able to demonstrate the increase in size of the auricle which brings about a slight diminution in the intra-thoracic pressure during inspiration and so at once causes an influx both of blood and of air.

The Uses of Picric Acid in Surgery.

On Jan. 19th M. Larouche communicated some observations to the Society of Surgery upon two cases of poisoning brought about by the use of picric acid as a dressing for burns in two children. Each of the children was dressed with 200 grammes of an ointment of the strength of 1 in 10 and both suffered from vomiting, intestinal pains, diarrhœa, black urine, and jaundice. M. Brun had seen a case of death following the use of this acid in an infant aged eighteen months and had abandoned its use. M. Tuffier considered that any other antiseptic was as good or even better and M. Felizet agreed. On the other side, however, MM. Michaux and Reynier said that they had seen very good results follow the use of picric acid. M. Championnière said that he never used it. M. Potherat cited some cases of poisoning in infants from its use, while MM. Hartmann and Reclus said that its use was accompanied by great pain. M. Walther drew the following conclusion from these various opinions: that infants appeared to be very sensitive to this particular antiseptic and that even adults exhibited very varying degrees of tolerance—a fact which must be taken into consideration as regards its use.

Obituary.

In addition to that of Dr. Péan,[1] the deaths are announced of the following medical men:—Dr. Mesnet, the celebrated alienist who was formerly physician to the hospitals, and Dr. Pietra Santa, editor of the *Journal d'Hygiène* and formerly physician to the Emperor Napoleon III.

Jan. 28th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Students' "Demonstrations" at Bologna.

THE "mother of universities" is showing the worst of examples to her academic progeny throughout the kingdom. Her *interim* professor of anatomy, Dr. Luigi Monti, happens to be a favourite with the students, but her Faculty of Medicine for reasons of their own see fit to nominate to the chair Dr. Romeo Fusari, an anatomist with an exceptionally good record at Messina and Modena. The students in resentment at the change "demonstrated" three hundred strong on Thursday, Jan. 20th, and again on Sunday, the 23rd, breaking windows and patrolling the streets shouting, "Abbasso Murri," "Abbasso Albertoni," whose votes were cast in Professor Fusari's favour. These distinguished clinicians and consultants (the former a contributor to THE LANCET) will not, of course, reverse their decision under such intimidation and Professor Fusari will succeed to the post he is eminently qualified to fill. But is not the frequent recurrence of these "tumultuose dimostrazioni" becoming a scandal in academic Italy, demanding as summary suppression as the far more intelligible agitation of the proletariat for "pane e lavoro" (bread and work)? At nearly all the Italian seats of learning the students are taking a side in the "Dreyfus case" and telegraphing remonstrances with their young contemporaries of the Latin Quarter. This tendency to premature intervention in political discussion is a besetting weakness of the southern "Burschenschaft" which would be far better employed at such "demonstrations" as those (say) of Professor Fusari than in starting "demonstrations" of their own full of "sound and fury signifying nothing."

Professor Lustig's Anti-bubonic Serum.

In THE LANCET of Nov. 20th, 1897, some account was given of the studies in the prophylaxis of "pestis bubonica" undertaken earlier in the year at the instance of the Italian Government by Dr. Alessandro Lustig, Professor of General Pathology in the Florentine Istituto di Studi Superiori

[1] An account of the life and work of Dr. Péan will be found in our Obituary.—ED. L.

and Director of the Pathological Laboratory attached to the same seat of learning. These studies culminated in Professor Lustig's discovery of an anti-bubonic serum which, tested again and again by his three colleagues as well as by himself and checked and counter-checked by every available means of eliminating fallacy, is believed to be of decided prophylactic efficacy against the disease. Now it appears that in consequence of the recrudescence of the "pestis" in the Bombay Presidency Professor Lustig has received from the sanitary authorities there a request by telegraph to send out immediately a large quantity of his anti-bubonic serum. That request has been promptly complied with; and not only so, but Professor Lustig has arranged that one of his assistants in the Fiorentine laboratory, Dr. Nuton, shall have leave of absence to go out to the plague-stricken *foci*, with a view to coöperating with the Bombay physicians in the application of the serum and to framing an official report on its prophylactic virtues. This latter step on Professor Lustig's part, I think it right to add, has been taken purely in the interests of science: "senza chiedere nè per se nè per suo assistente compenso alcuno" (without stipulating for himself or his assistant any compensation).

A Bonâ-fide Centenarian.

A generation ago appeared Sir G. Cornewall Lewis's paper in which he expressed his disbelief in any man or woman having reached the age of 100 years. The controversy it evoked, while putting it beyond a doubt that the claims of Parr, Jenkins, or the Countess of Desmond to have exceeded that term by fifty-two, sixty-nine, and forty years respectively break down on examination, made it also clear that the "centenarian" as vouched for up to the date of the controversy was a rather mythical personage. Since then, however, registration, more regular and with better title to authenticity, has shown that the longevity in dispute has more than once been attained, and indeed in the week now closing a *bonâ-fide* centenarian presented himself at the Vatican to arrange for his being received in audience by the Holy Father. This is Signor Felice Pacelli, born Jan. 23rd, 1798, father of the Commendatore Pietro Pacelli, uncle of the Councillor and advocate the Commendatore Filippo, and grandfather of the Communal Councillor Ernesto Pacelli, all well-known public men. The venerable gentleman was Director-General of Customs in the Papal Government before it was superseded by the Italian in 1870; he remembers all the great crises of the century now closing, and at the birthday banquet given in his honour last Tuesday in the house of his grandson, Signor E. Pacelli, he displayed a physical robustness and a mental vivacity rare in men thirty years his junior. In fact, he replied to the toast of his own health with animation and point in a full, clear voice and perfect articulation, and concluded by drinking to the prosperity of all present, "augurando loro una longevità pari alla sua" (wishing them a longevity equal to his own). Afterwards he conversed with them singly, dwelt on the politics of the day, and indulged in many picturesque reminiscences, such as his having once acted as cup-bearer to Pope Pius VII., who succeeded to the chair of St. Peter in 1800 and died in 1823. If spared for less than two more years Signor Pacelli will have witnessed the expiry of the eighteenth century and the opening of the twentieth.

The Spread of Influenza: a Warning.

It is not here only and in the Trastevere, as already indicated,[1] that influenza is diffusing itself. With the Italian spring now within measurable distance the malady is daily numbering more cases, few indeed of great import as yet, but tending to become more serious as special "candidates" are attacked. The English-speaking visitor, now beginning to arrive in increasing force, must avoid exposure to atmospheric vicissitude especially when fatigued and in the later hours of the day unless adequately fortified with a good meal and protected with warm clothing. The risks he runs are greatest in the southern provinces, particularly in and around Naples. From the attractive neighbourhood of Benevento a medical correspondent tells me that for nearly a month influenza has been on the wing, alighting on this or that centre "to stay," until in the town of S. Bartolomeo in Galdo "intere famiglie ne sono attaccate ed in moltissime case non v'è persona immune" (whole families have been seized by it and in very many houses not a single person has escaped). These are precisely the circumstances in which the enthusiastic votary of art, of nature, or of antiquity is apt to succumb with no other aid procurable than the "medico condotto" (divisional practitioner). Therefore we may repeat, *Verbum sapienti*—if, indeed, the said enthusiast can in these matters be ever called "sapiens."

Professor Mosso on Educational Reform.

The book of the hour is "La Riforma dell' Educazione," by that indomitable nature student and laboratory worker, Dr. Angelo Mosso, Professor of Physiology in the University of Turin. Some six years ago, when THE LANCET opened its columns to the fruitful theme started by Sir J. Crichton-Browne on "Sex in Education[2]" Professor Mosso's contribution to the discussion was welcomed with the cordiality due to an able and impartial observer, and now he has followed this up by a series of other papers treating on such attractive subjects as the "Causes of the Effeminacy of the Latin Races," "Physical Education in France," "Increasing Puniness and the Military Laws," the "Education of the Future," &c. But another opportunity—more favourable than the fag-end of a letter—must be reserved for a notice of this thoroughly scientific and brilliantly written book.

Jan. 31st.

[1] THE LANCET, Jan. 15th, 1898, p. 199.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Immigration Statistics in 1897.

IMMIGRATION to the United States during the fiscal year ended June 30th, 1897, shows a decrease of 112,435 from the arrivals for the preceding year, and was the smallest in volume since the subject was placed under Federal supervision by the Act of Aug. 3d, 1882. In fact, it was the smallest of any fiscal year since 1879, during which year 177,826 were reported to have arrived. During the year now reported 230,832 persons arrived, of whom 228,952 were permitted to land and 1880 were debarred and deported in accordance with law. Of those deported 328 belonged to the class known as alien contract labourers and 1289 were returned as belonging to the classes of aliens prohibited from admission under the Act approved March 3rd, 1891. In addition 263 persons who had become public charges within one year from arrival were returned either at the expense of the steamship line by which they came or at the expense of the immigrant fund. The number of immigrants who fell into temporary distress within one year of landing was 1424. Those unfortunates were relieved and their maintenance and hospital charges paid from the immigrant fund. The heavy decrease in immigration is attributed to recent restrictive legislation. The Commissioner-General in his report shows that the annual average for the period 1884 to 1893 inclusive was 472,063. After the legislation of 1891 and 1893 became effective the annual average in the period 1894 to 1897 inclusive fell to 279,566. Some other causes are reported as reasons for decreased immigration, such as the influence on immigration which other countries are exercising by means of bounties and land grants. The amount of money brought into the country by immigrants cannot be accurately shown, owing to the fact that they are not required to disclose any sum in excess of $30. The report of the service, however, shows that during the year immigrants exhibited to the inspectors sums which aggregated $3,541,241.

Antitoxin for Hog Cholera.

The chief of the Bureau of Animal Industry, Dr. D. E. Salmon, has submitted a report on the experiments made in the treatment of hogs for hog cholera with antitoxin serum. This serum is made on the same principle as the antitoxin of diphtheria. Good serum has been obtained from horses and cattle, a horse or cow being inoculated with the hog cholera virus in small quantities at first and with larger doses after suitable intervals of time. The resistance of the animal is thus raised to the highest practicable point. The blood of such an animal when injected under the skin of swine, has been found to possess both a preventive and a curative action. This serum was first tested on small animals in the laboratory, and being found efficacious was tested on several herds of swine containing altogether 278

[2] Vide THE LANCET, May 7th, 14th, and 28th, 1892.

animals. Leaving out one herd from which definite returns as to cause of death could not be obtained only 39 died of 244 animals treated, of which 86 were sick. Consequently 82·8 per cent. of the animals in these herds were saved. Of untreated herds kept under observation during the period referred to about 85 per cent. of the animals died. It is believed that with experience a better quality of serum can be prepared which will maintain this percentage hereafter.

Starvation in Cuba.

The Secretary of State has made an appeal on behalf of the starving people of Cuba. Some light is thrown on the matter by an article in the *Diario de la Marina* of Havana. According to this article the population of the province of Matanzas on Dec. 31st, 1896, was 253,616 persons. The Order of Concentration compelled 99 312 persons to abandon their homes, and these were herded in the town without any resources. Up to Nov. 30th, 1897, 20,044 of these people had died from starvation and 17,456 had disappeared. It is estimated that at the present time there are over 62,000 persons—17,000 men, 20,000 women, and 25,000 children—in that province alone who are slowly dying from inanition. Taking these figures as a basis it is believed that no less than 500,000 deaths from starvation alone are directly traceable to General Weyler's edict of concentration. The Consul-General of the United States at Havana mentions the following articles as appropriate to be contributed, all of them, as he reports, being greatly needed: summer clothing for women and children, quinine, hard bread, flour, cornmeal, cereal preparations, bacon, rice, lard, potatoes, beans, peas, and salt fish; any canned goods, particularly nourishing soups; meat extracts, blankets, and especially large quantities of condensed milk.

The Bertillon System.

The Bertillon system of identification of criminals has been in operation in the prisons, penitentiaries, and reformatories in the State of New York since August, 1896, and 16,000 cards, each bearing the photograph, measurements, and descriptions of a criminal, are now indexed and classified.

Medical University Extension.

It appears that the Medical Society of the State of Pennsylvania has systematised a movement deserving of hearty support. The society issues a list of physicians, largely teachers, who are willing to lecture or to hold clinics upon given subjects before county societies in all parts of the State. The local society applies to the chairman of the State committee and pays only the travelling expenses of the visiting lecturer. The latter gives his service and his time. Many of the county physicians do not in years meet their fellow practitioners from cities and different parts of the country, but this movement gives them an opportunity to hear and become acquainted with specialists and teachers of repute and to freshen their knowledge of recent medical problems and practice.

Death of Dr. Joseph O'Dwyer.

Dr. Joseph O'Dwyer died at his home in this city on the evening of Jan. 7th, after a brief though painful illness. He had gained a world-wide reputation by his discovery of a safe and reliable method of intubation in diphtheria by which thousands of children have been saved. He was born in Ohio in October, 1841, but passed his early life in Canada. His academic course was completed at McGill University, Montreal, and his medical course in this city, where he graduated from the College of Physicians and Surgeons in the class of 1866. After graduation he served a term as interne in the City, then Charity, hospital, and afterwards as examining physician at Bellevue Hospital. He was a member of many local and national medical societies, an ex-president of the American Pediatric Society, and was attending physician to the New York Foundling Asylum and to St. Vincent's Hospital and consulting physician to the Seaton Hospital.

Jan. 19th.

PAROTITIS ON A TRAINING SHIP.—An outbreak of mumps has occurred on the *Britannia* training ship for naval cadets at Dartmouth and the patients have been removed to the hospital on shore.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board in the subjects indicated at the January quarterly meeting of the examiners:—

Chemistry and Physics:

Adamson, James Weeden Woodhams.
Baker, Harold Ramsey Popham.
Bird, Albert Edward.
Blasson, Charles John.
Brodribb, Francis Arthur.
Burges, Richard.
Connell, Harry Bertram.
Crowther, Sydney Nelson.
Davy, William Bradshaw.
De Wilton, Ernest Montefiore.
Edmonds, Frank Rowe.
Forsyth, Lennard William.
Fowler, Trevor Hayman.
Hendley, Philip Arthur.
Holford, Christopher Tredwell.
Houlbrook, William Edward.
Howell, Trevor.
Hughes, Guy.
Kenderdine, Ernest Henry.
Kennedy, Robert Pettigrew.
King, James Malcolm.
Latham, Godfrey Holland.
McCowen, William Terrance.
Marsh, James Kenneth Nevil.
Melhuish, Herbert Michael Henry.
Miller, Guy Witton.
Morgan, Lewis.
Oakeley, Arthur Eckley.
Ommanney, Francis Montague Maxwell.
Paine, Frederick.
Pearson, John Douglas.
Raymond, George.
Riley, Stanley.
Robertson, Struan Arthur.
Scatchard, Thomas.
Smith, Edward Arthur.
Storey, Alfred Cuthbert.
Timothy, John Haydn.
Turner, Arthur Hewett.
Wells, John.
Willcox, Herbert Liston.
Woods, Charles Murray.
Young, Alister Cameron.

Materia Medica:

Alabone, Marcus Anslow.
Battiscombe, Eric George.
Browning, Paul Ransome.
Clover, Martin.
Darlington, Henry Edward.
Furness, James Collins.
Hyde, Edwin.
Le Maistre, Edward Aleck.
McClure, Charles Thomas.
Mellish, John Alfred.
Palmer, Arthur Frank.
Spurgin, Percy Bertram.

Practical Pharmacy:

Austin, Alfred Chalmers.
Baker, William Lincoln.
Barrow, Harold Percy Walter.
Bent, Vincent Thomas Clare.
Bourns, Frank Grose.
Chells, George Russell Haines.
Crawford, Vincent James.
Davey, James.
Drake-Brockman, Ralph Evelyn.
Edwards, Henry Herbert Johnson.
Ellis, Francis Heygate.
Evans, Arthur John.
Foulds, Francis Henry.
Goodbody, Cecil Maurice.
Griffin, Gerald.
Halstead, William Wilfred.
Hanbury, Reginald Janson.
Harland, William Henry.
James, Frederic William.
Jefferiss, Frederick Burroughs.
Jefferiss, Jain McKinnar.
Kinsey-Morgan, Augustus.
Lamb, Ralph.
Lobb, Francis Frederick.
Nicholls, Percival Thomas.
Nicholson, William.
Paul, John Frederick.
Peake, Sidney John.
Reece, Charles Clement.
Richards, Francis Graham.
Richardson, Arthur Henry Sims.
Richardson, Irwin Browne, Shepherd, Cyril.
Smith, Herbert James.
Spear, George Arthur Whitworth.
Stanley, Edmund Hamilton Blake.
Taplin, Julian.
Thomson, Charles Bertram.
Woodyatt, Henry Constantine.

Elementary Biology:

Adamson, Jas. Weeden Woodhams.
Barnes, Walter Biscoe.
Bazalgette, Sidney.
Bellamy, Henry Francis.
Best, John Gordon de Graves.
Bridges, David.
Bubb, Charles Henry.
Cole, Percival Pasley.
Corfield, Charles.
Cundell, Harold Juler.
Day, Charles Frederick.
De Wilton, Ernest Montefiore.
Edwards, Kenelym Cobham.
Ellis, Edgar Severn.
Emerson, Herbert.
Geraty, Lawrence Unthank.
Gerrard, Francis Tyrer.
Gibson, Thomas.
Goldstein, John Leopold.
Halsall, Cuthbert Murray.
Harrison, Edward Montague.
Higgins, James Gilkison.
Hulsberg, Emil Castern.
Hunt, Lawrence Charles.
Ind, Charles Uncles.
Jacques, Harold.
Keir, John Duncan.
Kennedy, Robert Pettigrew.
Landmann, Alfred Emil.
Lee, Crichton Stirling.
Lewis, Ivor.
Lewis, Richard.
Lovell, William.
Lowsley, Owen Leonard.
Morris, Charles Harry.
Moyle, Reginald.
Mummery, Norman Howard.
Naggiar, Edward Elie.
Nettell, John Patten.
Paine, Frederick.
Pearson, John Douglas.
Richard, George Herbert.
Richardson, Arthur Henry Sims.
Sadler, Vyvyan Kendall.
Smith, Herbert James.
Soper, Hugh Thomas Burell.
Story, Alfred Cuthbert.
Timothy, John Haydn.
Turner, Arthur Hewett.
Walker, Henry James Davey.
Weekes, Harold Ernest.
Whitmore, Fielding Charles.
Wilbraham, Reginald Francis Bootle.
Willcox, Hubert Liston.

UNIVERSITY OF CAMBRIDGE.—On Jan. 27th the following degrees in Medicine and Surgery were conferred:—

B.C.—E. S. St. B. Sladen, B.A., Caius.
M.B.—B. H. Slater, B.A., Trinity.
M.B. and B.C.—N. B. Harman, B.A., St. John's; C. S. Myers, B.A., Caius; and A. E. Jeaffreson, B.A., Christ's.
M.D.—R. Coombe, M.A., Caius.

UNIVERSITY OF EDINBURGH.—The following degrees were conferred at a special graduation held on Jan. 29th :—

M.B., C.M.—John Tarratt Titterton, England.
M.B., Ch.B.—William Stanforth Eaton, England.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Corning and Dr. Jaquet have been appointed Extraordinary Professors of Topographical Anatomy and Pharmacology with Therapeutics respectively.—*Budapest:* Dr. Sarbo has been recognised as *privat-docent* of Neurology.—*Greifswald:* Dr. Leick and Dr. Geroulanos have been recognised as *privat-docenten* of Medicine and Surgery respectively.—*Groningen:* Dr. Nijhoff, of Amsterdam, has been appointed to the chair of Midwifery and Gynæcology.—*Heidelberg:* Dr. S. Bettmann has been recognised as *privat-docent* of Internal Medicine.—*Kieff:* Dr. Conrad Wagner, of St. Petersburg, has been appointed Extraordinary Professor of Medical Diagnosis.—*Lemberg:* Dr. Gabryszewski has been recognised as *privat-docent* of Surgery.—*Modena:* Dr. Ruggi has been promoted to the professorship of Clinical Surgery.—*Moscow:* Dr. Shervinski, Extraordinary Professor of Internal Medicine, has been promoted to be Ordinary Professor.—*Munich:* Dr. W. Herzog has been appointed Extraordinary Professor of Surgery.—*Naples:* Dr. Boeri, Dr. Sorrentino, Dr. di Luzenberger, and Dr. Grimaldi have been recognised as *privat-docenten* of Medical Pathology, Surgical Pathology, Neurology, and Psychiatry respectively.—*Padua:* Dr. E. Tricomi has been appointed Professor of Surgical Pathology.—*Rome:* Dr. Ghilarducci has been recognised as *privat-docent* of Neurology and Dr. Margarucci as *privat-docent* of Surgery.—*Rostock:* The Landtag has voted £10,000 for the erection of an ear clinic.—*Tübingen:* Dr. Oesterlen has been promoted to an honorary Ordinary Professorship of Hygiene and Forensic Medicine.—*Turin:* Dr. Nicolai and Dr. Bordoni-Uffreduzzi have been recognised as *privat-docenten* of Laryngology and Hygiene respectively.—*Vienna:* Dr. Karl Ewald, Dr. Fronz, and Dr. von Töply have been recognised as *privat-docenten* of Surgery, Pædiatry, and the History of Medicine respectively.—*Würzburg:* Dr. Seifert has been appointed Extraordinary Professor of Laryngology.

PRESENTATIONS TO MEDICAL MEN.—Mr. D. Macartney, M.D. Glasg., D.P.H. Camb., of Glasgow, at the closing meeting of the lecture class, held on the 23rd ult., under the auspices of the St. Enoch Ambulance Corps, was the recipient of a silver tray from the class.—Mr. J. McPhail Dougall, M.D. Glasg., of the Grange, Welburn, was presented on the 24th ult. with a travelling clock by the male and female members of the ambulance classes recently held at Welburn, York, under the auspices of the St. John Ambulance Association.

CHILDREN'S HOSPITAL, BRADFORD.—The annual general meeting of the Bradford Children's Hospital was held at the Town Hall on Jan. 28th, the mayor presiding. The report mentioned that £1750 had been paid to the hospital by the committee appointed to collect subscriptions in commemoration of the Queen's Diamond Jubilee. The financial statement showed receipts on current account amounting to £1556 and an expenditure of £2028. The income for 1897 had fallen short of that for 1896 by upwards of £400 and a sum of £1385 was owing to the bankers. The medical statistics were as follows: in hospital Jan. 1st, 1897, 48; admitted, 460; discharged, 427; died, 34; in hospital Dec. 31st, 1897, 47. There were also 2116 new out-patients treated during the year.

WEST KENT GENERAL HOSPITAL.—The annual general meeting of the West Kent General Hospital, Maidstone, was held at the hospital on Jan. 21st, Mr. F. S. W. Cornwallis presiding. The report showed that there were 426 in-patients during 1897 as compared with 398 during 1896, the daily number resident for 1897 averaging between 38 and 39. The total attendances of out-patients, casualties, and dental patients were 19,157. The expenditure for the year was £3569. A sum of £100 was received from the Mayor's Fund on account of the extra expense occasioned by the typhoid fever epidemic. During the epidemic sixty-eight beds were occupied by typhoid fever cases, including three nurses engaged in the town, and it was necessary to engage an additional house surgeon and extra nurses. The Diamond Jubilee buildings will probably be ready for use in a few weeks.

LITERARY INTELLIGENCE.—The Rebman Publishing Company's new books include a new "Pocket Formulary for the Treatment of Disease in Children," by Dr. L. Freyberger, of the Great Northern Central Hospital, London; and a work on "Surgical Diagnosis and Treatment," by J. W. Macdonald, M.D. Edin. They also announce the completion of their "Pictorial Analysis of Skin Diseases" (St. Louis Hospital Museum, Paris), edited by J. J. Pringle, M.B. Edin., F.R.C.P. Lond.

GLOUCESTER INFIRMARY.—At a meeting of the Gloucester Infirmary Committee held on Jan. 27th it was resolved, on the motion of the Earl of Ducie, seconded by the Bishop of Gloucester, to name one of the wards the "Ancrum Ward" in recognition of the services of Dr. W. R. Ancrum, who recently retired from the chairmanship of the governors. The committee received with great regret the resignation of Mr. R. Mount Cole, for twenty-nine years surgeon to the institution.

A NEW COUNTY ASYLUM.—At the quarterly meeting of the Radnorshire County Council held on Jan. 24th the Visiting Committee of the Radnor and Brecon Joint Counties Asylum reported that the plans of the new asylum would be ready by September, when building would be commenced. The committee suggested that they should be authorised to continue the boarding-out arrangement at Abergavenny pending the erection of the new asylum. The report was adopted. Mr. R. Harding, in moving it, mentioned that £120,000 would be required before the new asylum was finished.

THE BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.—We have received from the honorary secretary of the Order of the Hospital of St. John of Jerusalem in England a synopsis of the surgical statistics of the British Ophthalmic Hospital at Jerusalem for the year ending Sept. 30th, 1897. From this it appears that there were 1124 applications received at the hospital for admission and 569 in-patients were admitted. There were 4640 new out-patients seen and the aggregate attendance at the out-patient department numbered 12,881. There were 1277 operations performed, of which 656 required the administration of an anæsthetic.

TIVERTON INFIRMARY.—The annual meeting of the Tiverton Infirmary was held on Jan. 26th under the presidency of the mayor. The report showed that the committee had expended £142 more than they had received. The medical report stated that a total of 1798 cases had been treated, being a decrease of 272 from 1896. The committee request subscribers to inquire into the circumstances of each case before granting a recommendation. £730 have been received for the erection of a new wing for the reception of paying in-patients; a further £270 at least will however be required, towards which Sir Heathcoat Amory has promised £50 on condition that the balance be raised within a limited time.

LIVERPOOL ROYAL INFIRMARY.—The resignation of Dr. John Wallace, surgeon to the Thornton Wards of the Liverpool Royal Infirmary, to which he was appointed in 1878, was announced at the annual meeting held on the 31st ult. Dr. Wallace has been elected consulting gynæcological surgeon. The candidates for the vacancy are Mr. Henry Briggs and Dr. T. B. Grimsdale, acting surgeons to the Hospital for Women, Shaw-street; and Dr. Francis B. Imlach, who, we understand, was largely instrumental in promoting the foundation of the Shaw-street Hospital. The appointment lies with an election committee which comprises about ninety-five trustees of the Liverpool Royal Infirmary.

READINGS BY SIR SQUIRE BANCROFT.—Sir Squire Bancroft gave a reading of Dickens's "Christmas Carol" in aid of the funds of the Torbay Hospital at the Bath Saloon, Torquay, on Jan. 25th, Mr. Mattock presiding. The institution will benefit to the extent of about £100 from the reading.—Sir Squire Bancroft read the "Christmas Carol" at Plymouth on Jan. 26th in aid of the funds of the South Devon and East Cornwall Hospital. The entertainment was a great success. The Earl of Morley presided.—The same piece was also recently read by Sir Squire Bancroft at the Assembly Rooms, Bath, for the benefit of the Royal United Hospital. The mayor presided.

INFECTIOUS DISEASES HOSPITAL IN CHESHIRE.—The Mayor of Chester on the 25th ult. laid the foundation-stone of an infectious diseases hospital to be erected at Sealand, about a mile from the city, at a total estimated cost of about £20,000. In Mid-Cheshire a controversy has been going on for some months between the county council and the local authorities as to the provisions of isolation hospitals, but nothing has yet been done. The need for action is sufficiently pressing, for on Dec. 22nd the chairman of the Northwich Urban Council mentioned an outbreak of scarlet fever in which there were nine patients in one house out of a family of eleven.

FATAL ACCIDENT TO A MEDICAL MAN.—Dr. Druce John Slater, of Courtfield-road, South Kensington, lost his life under very sad circumstances while shooting near Temsworth, Bedfordshire, on Jan. 29th. He stumbled while crossing a stile, the consequence being that the charge of the gun which he was carrying was lodged in his body and he died in a few minutes. An inquest was held on Jan. 31st and a verdict of "accidental death" was returned. Dr. Slater received his medical education at St. Bartholomew's Hospital and became qualified as L.S.A. in 1882; in 1883 he graduated as M.D. Lond.

WORCESTERSHIRE MEDICAL SOCIETY.—The annual meeting of this society was held on Jan. 11th. Dr. Stanley Haynes, of Malvern, was elected President for the ensuing year and Dr. G. W. Crowe, of Worcester, Vice-president. The secretary presented a report showing that there were fifty members of the society and a balance in hand of £1 1*s.* 8*d.*—Dr. Crowe read notes of a case of severe Post-diphtheritic Paralysis.—Mr. Coombs showed a patient with Osteitis Deformans and gave a short description of the disease.—Mr. Bubb pointed out the advantages of using a solution of formalin for preserving pathological specimens and exhibited examples.—Mr. Gostling showed a man from whom he had removed the whole of one semilunar cartilage for recurring synovitis of the knee.—Mr. Bates exhibited several interesting cases under his treatment in the infirmary. The members afterwards dined together at the Star Hotel. Dr. Cooke, Dr. Read, Mr. Wilding, and Mr. Bubb contributed some excellent songs and a very pleasant evening was spent.

WIGAN MEDICAL SOCIETY.—An ordinary meeting of this society was held on Dec. 31st, 1897, Mr. C. R. Graham presiding in the absence of the President.—Mr. Graham's paper on Cholecystotomy was postponed till the next meeting.—The following cases were exhibited: Mr. Hugh E. Jones showed the following interesting cases: (1) Paralysis of the External Rectus Muscle with Intracranial Aneurysm; (2) Proptosis of the Eyeball; (3) Traumatic Ptosis; (4) Wounds of the Cornea, Iris, and Lens; (5) Interstitial Keratitis; and (6) Convergent Strabismus.—Mr. Graham showed specimens of (1) Gall-stone and (2) Ovarian Dermoid Cyst.—Dr. White showed a specimen of an Unilocular Ovarian Cyst and the following cases: (1) Eczema Erythematosum Papulosum and (2) Dermatitis Herpetiformis.—An extraordinary meeting was held on Thursday evening, Jan. 20th, the President, Mr. C. T. Street, presiding. The following office-bearers for 1898 were elected: President, Mr. W. Berry. Committee: The President; Mr. C. T. Street, ex-president; Mr. C. R. Graham, Mr. W. Mitchell Roocroft, Mr. E. H. Monks, Mr. C. M. Brady, Mr. R. H. Cowan, Dr. M. Benson, Dr. R. P. White, and Mr. L. Cooke. Honorary treasurer: Mr. E. H. Monks. Honorary secretary: Mr. C. F. France. The following papers were read: 1. On Cholecystotomy, by Mr. C. R. Graham. The paper was an interesting and practical one and the following members took part in the discussion: Dr. Rees, Mr. Brady, and Dr. White. Mr. C. R. Graham now took the chair in the President's absence, he having been called away. 2. A paper, illustrated by lantern slides, on Harelip and Cleft Palate, by Mr. R. W. Murray, Surgeon to the Children's Infirmary, Liverpool. The paper was a highly instructive one and much appreciated by the members present. A discussion followed in which the following members took part: Mr. Graham, Mr. Monks, Dr. White, Mr. Cooke, Dr. Rees, and Dr. Jones. A cordial vote of thanks was passed to Mr. Graham and Mr. Murray for their papers, to which both replied, and a vote of thanks to Mr. Graham for presiding concluded the meeting.

SOUTH WALES SANITARY INSPECTORS' ASSOCIATION.—The first annual meeting of this association was held on Jan. 25th at Newport, under the presidency of Dr. Walford. Mr. S. Jones read an interesting paper on Meat Inspection, in which he mentioned that in Newport 4379 lb. of meat had been condemned during the past twelve months. Dr. Walford said he believed that veterinary surgeons ought to be appointed as meat inspectors. Dr. Williams afterwards entertained the members.

A STATUE TO A BOLTON PHYSICIAN.—It is so rarely that statues are raised in memory of those whose mission is to save life and not to destroy it that attention may be called to the unveiling of a memorial statue of the late Dr. James Dorrian in the neighbouring town of Bolton on the 29th ult. The ceremony was performed by Mr. Alderman Nicholson, who referred to Dr. Dorrian's lifework of charity and usefulness in the town. The statue is of Portland stone and bears the inscription—"James Dorrian, M.D., 1826-1895. Erected by public subscription to commemorate a life of usefulness."

GLASGOW SOUTHERN MEDICAL SOCIETY.—This society met on Jan. 20th, Mr. Stuart Nairne, former president, being in the chair. The proceedings took the form of a "hat night," an experimental innovation which proved interesting. Among other questions the following were discussed. 1. Methods of controlling the present abuse as regards the Sale of Patent Medicines. The German plan of having a correct formula on each label was approved. 2. Differential Diagnosis of the Rash of Scarlet Fever from other conditions resembling it. 3. Treatment of Tuberculous Meningitis. 4. Antipyrin in the Treatment of Pneumonia. In small doses of from three to four grains with tincture of digitalis in Mr. Nairne's practice it had been found of great service. 5. Appendicitis: when to operate? Mr. Parry thought the American rule a good guide in practice. If after the third day the pulse and temperature keep up operate.

MANCHESTER THERAPEUTICAL SOCIETY.—A meeting of this society was held on Jan. 26th, Professor Leech, the President, being in the chair.—Dr. Eugene S. Yonge read a paper on the Local Treatment of Painful Ulcerations by Orthoform with special reference to the Upper Air-passages. Professor Leech mentioned his experience of the use of orthoform and several other members also spoke on the subject.—Professor Leech showed specimens of Eucaine A, Eucaine B, and Holocaine and opened a discussion on Local Anæsthetics. He showed the chemical relationship of eucaines to cocaine and of holocaine to phenacetin. The eucaines had proved to be less poisonous than cocaine, eucaine B being less toxic than eucaine A. Both had been used successfully in ophthalmic practice. Holocaine had been very highly spoken of by Mr. Brudenell Carter, but it was not so free from toxic properties as eucaine B. Professor Leech also referred to "anesin," a solution of trichlor-pseudo-butyl alcohol which has been recently introduced as a local anæsthetic and employed in laryngeal cases, in dentistry, and for injection to prevent the pain of incisions.—In the discussion which followed members spoke of the use of cocaine, ethyl chloride, pyoktanin, antipyrin, and Schleich's infiltration method for the production of local anæsthesia.—Dr. R. T. Williamson exhibited some "Diabetic" Foods entirely free from carbohydrates and described the method of preparing them from aleuronat and cocoanut.

PRIZES OF THE PARIS ACADEMY OF SCIENCES.—The *Revue Scientifique* of Jan. 29th publishes a list of fifty prizes varying in value from 200 francs to 100,000 francs (from £8 to £4000) which are offered for award by the Paris Academy of Sciences during 1898. The prizes in medical subjects are as follow: Prix Montyon (three)—(1) medicine and surgery; (2) experimental physiology; and (3) methods of rendering unwholesome occupations less dangerous to health. Prix Bréant (100,000 francs): the prevention or cure of cholera. Prix Godard: the anatomy, physiology, and pathology of the genito-urinary organs. Prix Barbier: discoveries in surgery, medicine, pharmacy, or botany capable of application in the treatment of patients. Prix Lallemand: work on the nervous system. Prix du Baron Larrey: military, or naval medicine, surgery, or hygiene. Prix Bellion: works or discoveries conducive to a higher standard of public health or to the improvement of the human race. Prix Mège: completion of an essay on the history of

medicine. Prix Pourat: motor nervous system of the stomach. Prix Philipeaux: experimental physiology. Prix Leconte (50 000 francs): new and important discoveries in mathematics, physics, chemistry, natural history, and medical sciences. There are also shorter lists of prizes for the years 1899, 1900, and 1901, in which the following appear: Prix Serres: embryology. Prix Chaussier (10,000 francs): the best book or memoir on legal or practical medicine. Prix La Caze (10,000 francs): physiology. Prix Da Gama-Machado: the colouration of the tegumentary system of animals and the fertilising substance of living beings. Prix Parkin—(1) the curative effects of carbon, especially in the gaseous form, in cholera, fevers, &c.; and (2) the effects of volcanic action in the production of animal epidemics, vegetable epidemics, and atmospheric disturbances. Prix Dusgate: the diagnostic signs of death and the prevention of premature interment. Prix Martin-Damourette: therapeutic physiology.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BELCHER, H. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the West Bridgford Sanitary District of the Basford Union.

BIRMINGHAM, W. P., M.B., Ch.B. Dubl., has been appointed a Member of the Board of Management for the Public Hospital, Fremantle, West Australia.

BUCHANAN, JAMES, M.B., M.Ch., B.Ch. Irel., has been appointed Medical Officer for the Watford Sanitary District of the Watford Union.

CARROLL, JOSEPH, M.B., C.M. Glasg., D.P.H. Camb., has been appointed Lecturer on Public Health and Hygiene at the Anderson's College Medical School, Glasgow, vice J. P. Munro.

CHALLANDS, F., M.B., Ch.M. Syd., has been appointed a Medical Officer at Childers, Queensland, vice R. Hancock.

DAISH, W. C., M.D. Melb., has been appointed a Public Vaccinator at South Melbourne, Victoria, Australia.

DONALDSON, H., M.R.C.S., has been appointed a Public Vaccinator for the District of Gore, New Zealand.

EADIE, J. MCINTYRE, M.B., Ch.M. Glasg., has been appointed a Public Vaccinator at Bendigo, Victoria, Australia.

ELKINS, FRANK A., M.D., has been appointed Medical Superintendent of the Metropolitan Asylum at Leavesden, Herts.

FALWASSER, A. T., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Ramsgate Seamens' Infirmary and General Hospital, and Visiting Surgeon to the Ramsgate and St. Lawrence Royal Dispensary, vice John Moses.

GOLDSMID, J. A., M.B. Syd., has been appointed a Government Medical Officer and Vaccinator for the District of Murwillumbah, Tweed River, New South Wales.

GREAVES, FRANK, M.R.C.S., has been appointed Assistant House Surgeon to the Derbyshire Royal Infirmary, vice R. G. Knox.

HALL, A. J., M.B., B.C. Camb., M.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Physician to the Sheffield Royal Hospital.

HALLSWORTH, F. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bodenham Sanitary District, Leominster Union.

HANWELL, G. L., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W.

HARDING, WILLIAM, M.D. Edin., M.R.C.P., has been appointed Medical Superintendent to the Northampton County Asylum, Berrywood, vice Richard Greene.

HOPE, J. W., F.R.C.P. Edin., has been appointed a member of the Board of Management for the Public Hospital, Fremantle, West Australia.

HORROCKS, H., B.Sc. Lond., M.D., D.P.H., has been appointed an Assistant Pathologist and Bacteriologist for the Public Hospital, Perth, West Australia.

HUDSON, G., M.B., C.M. Edin., has been appointed Medical Officer for the Workhouse and the Worlington Sanitary District of Mildenhall Union.

JAMESON, A., M.B., Ch.M. Edin., has been appointed Pathologist and Bacteriologist for the Public Hospital, Perth, West Australia.

JONES, RICHARD, L.K.Q.C.P., L.R.C.S. Irel., has been appointed Officer of Health and Public Vaccinator for the Phillip Island Shire, Victoria, Australia, vice S. Wilson.

LOCKWOOD, W., M.D. Edin., has been appointed Honorary Surgeon to the Royal Halifax Infirmary.

LORD, JOHN R., M.B., C.M. Edin., has been appointed an Assistant Medical Officer to the London County Asylum, Hanwell.

LOWE, PERCY RYCROFT, B.A., B.C. Camb., has been appointed House Surgeon to the Derbyshire Royal Infirmary, vice Richard S. Olver.

MALCOLMSON, J. F., L.F.P.S. Glasg., has been appointed acting Officer of Health for the Town of Port Melbourne, Victoria, Australia.

MAXWELL, K., M.B., Ch.M. Edin., has been appointed acting Public Vaccinator at Castlemaine, Victoria, Australia.

MCALLISTER, J. F., M.D. Melb., has been appointed Lecturer in Clinical Surgery for the University of Sydney, New South Wales.

MILNES, J. G., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Gislingham Sanitary District of the Hartismere Union.

MORISON, ALBERT E., M.B., C.M., F.R.C.S. Edin., has been appointed Honorary Surgeon to the Hartlepool Hospital.

NOONAN, P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for Hamilton, Tasmania.

SCOTT, ERIC N., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for Clermont, Queensland.

SELLERS, W. N. IRVIN, M.B., C.M. Edin., M.R.C.S., has been appointed Honorary Surgeon to the Preston and County of Lancaster Royal Infirmary.

SHIELDS, A., M.D. Edin., has been appointed an Inspector of Schools of Anatomy in Victoria, Australia, vice R. Youl.

SMYTH, THOMAS EDWARD, B.A., M.D., C.Ch. (Trinity College, Dublin), has been re-appointed Medical Officer for the Milton Aboot District of the Tavistock Union.

STEWART, JOHN, L.K.Q.C.P., L.R.C.S. Irel., has been appointed a Public Vaccinator at Walhalla, Victoria, Australia.

TICKELL, HENRY MORRIS, M.A., M.D., B.C. Camb., M.R.C.S., has been appointed House Physician to the Derbyshire Royal Infirmary, vice W. E. L. Horner.

WEBSTER, W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third (A) Sanitary District of the Hailsham Union.

WHEELER, L., M.B., B.S. Irel., has been appointed a member of the Board of Management for the Public Hospital, Fremantle, West Australia.

WHITE, A. T., L.R.C.P., L.R.C.S. Edin., has been appointed a Member of the Board of Management for the Public Hospital, Fremantle, West Australia.

WOOLLISCROFT, WILLIAM WINFRED, M.R.C.S., L.R.C.P., has been appointed a House Physician to Charing-cross Hospital, vice W. Curling Hayward.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CHARING-CROSS HOSPITAL, London.—Resident Medical Officer. Salary £100 a year, with board and residence.

FLINTSHIRE DISPENSARY.—Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free, also coal, light-water, and cleaning, or in lieu thereof £20 per annum. Applications to the Secretary, Board-room, Bagillt-street, Holywell, North Wales.

FROME UNION.—Medical Officer for the Coleford Medical District. Salary £50. Midwifery, 10s. per case. Certifying lunatics, 10s. per case. Applications to the Clerk, Public Offices, Frome.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION, Gloucester.—Surgeon.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Anæsthetist.

HULL ROYAL INFIRMARY.—Honorary Assistant Surgeon for the Out-patient Department for five years.

HUNTINGDON COUNTY HOSPITAL, Huntingdon.—House Surgeon for one year. Salary £50, with board, rooms, and washing.

JOINT COUNTIES ASYLUM, Carmarthen.—Resident Clinical Assistant. Board, &c., and honorarium.

LEICESTER INFIRMARY.—Assistant House Surgeon for twelve months. Honorarium £42, and board, residence at the infirmary, and washing provided.

LINCOLN COUNTY HOSPITAL, Lincoln.—Assistant House Surgeon for six months. Honorarium £10, and board, residence, and washing provided.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Residence in the hospital, board, and washing provided, and an honorarium given conditionally.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Junior Resident Medical Officer for one year. Salary £80 per annum, with board and lodging. Also Medical Officer for the Dispensary. Salary £180 per annum.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the North-Western Fever Hospital, Haverstock-hill, N.W., unmarried. Salary first year, £160, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance and washing (subject to certain statutory deduction). Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer for the South-Eastern Fever Hospital, Hatfield-street, New-cross-road, S.E., unmarried. Salary £160 the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance, and washing (subject to statutory deduction). Applications to the Clerk to the Board, Norfolk House, Norfolk-street, Strand, W.C.

POPLAR HOSPITAL FOR ACCIDENTS, East India-road, Poplar, E.—Assistant House Surgeon. Salary £65 a year, with board and residence.

ROYAL INFIRMARY, Sheffield.—Junior Assistant House Surgeon for three years. Salary £50 per annum, with board, lodging, and washing. Also, House Surgeon, salary £120; House Physician, £80; and Senior Assistant House Surgeon, £60 per annum.

ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £80 a year, with residence, board, attendance, and washing.

SEAMEN'S HOSPITAL SOCIETY (DREADNOUGHT), GREENWICH.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £75 per annum, with board and residence and an additional £25 per annum if certain clinical work is performed satisfactorily.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon for six months. Honorarium at the rate of £50 per annum. Residence, board, and washing provided.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY, Stamford.—House Surgeon for two years, unmarried. Salary, £160 per annum, with board, lodging, and washing.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Anatomy. Salary £70.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary £2 per mensem, with residence, board, and washing.

SUNDERLAND BOROUGH ASYLUM.—Medical Superintendent. Salary £350 a year, with furnished house, board for self and wife (if married), washing, coals, light, two servants, and use of garden. Applications to the Clerk to the Visiting Committee, Town Hall, Sunderland.

SUSSEX COUNTY HOSPITAL, Brighton.—Fourth Resident Medical Officer, unmarried. Salary £30 per annum, with board, washing, and residence in the hospital.

TEWKESBURY UNION.—Medical Officer or Officers for the Workhouse, Tewkesbury District and the Tirley District. Salaries for the Workhouse £60, the Tewkesbury District £82, and the Tirley District £33, with the usual extras and vaccination fees. Applications to the Clerk to the Guardians, Tewkesbury.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W.—House Physician for twelve months. Honorarium £50, with board and lodging in the hospital.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Fifth Assistant Medical Officer. Salary £100 per annum, rising £10 a year up to £150, with board, &c.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, Powick.—Head Medical Superintendent. Salary commencing at £800 per annum, with partly furnished house, coals, gas, washing, garden produce, &c. Applications to the Clerk to the Committee, 40, Foregate-street, Worcester.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On Jan. 30th, at Faversham, Kent, Maud, the wife of Charles Macdonell Anderson, M.D., of a son.

CREE.—On Jan. 27th, at Park Villa, Cheltenham, the wife of Surgeon-Major Gerald Cree, Army Medical Staff, of a son.

DODD.—On Jan. 31st, at 14, Goldstone-villas, West Brighton, the wife of Arthur Herbert Dodd, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of a son.

DU CANE.—On Jan. 28th, at Darwen, Lancs., the wife of Herbert Du Cane, M.B., of a daughter.

HEARNDEN.—On Jan. 28th, at Sutton, Surrey, the wife of Ernest Morgan Hearnden, M.R.C.S. Eng., L.R.C.P., L.S.A., of a daughter.

ROBINSON.—On Jan. 25th, at Killieser-avenue, Streatham-hill, the wife of Louis Robinson, M.D., of a daughter.

SKIPWORTH.—On Jan. 28th, at The Terrace, Gravesend, the wife of P. L. G. Skipworth, M.R.C.S. Eng., of a son.

MARRIAGES.

ATKINSON—RUSSELL.—On Feb. 1st, at the Cathedral, Plymouth, George Louis Atkinson, M.R.C.S., L.R.C.P. Lond., of Elmhurst, Hampton Hill, to Florence, daughter of the late George Russell, M.D., of Aberdare, South Wales.

DAUNT—GOULD.—On Jan. 27th, at St. Pancras Church, William Daunt, L.R.C.P. Edin., son of Francis Daunt, of Dublin, to Jeannie, daughter of Charles Gould, of Forest-hill, Kent.

HUMPHRIS—HESKETH.—On Jan. 20th, at the Church of the Resurrection, Brussels, F. Howard Humphris, M.D., M.R.C.P., &c., eldest son of F. H. Humphris, J.P., of Grove Mount, Ilkley, Yorkshire, to Ethel Marion, eldest daughter of Colonel Hesketh, late I.S.C., Brussels.

THORNTON—CORDNER.—On Jan. 25th, at St. Peter's Church, Cranley-gardens, George Lestock Thornton, B.A. Camb., M.R.C.S., L.R.C.P., second son of the Rev. J. Thornton, M.A., Vicar of Ewell, Surrey, to Leta, only daughter of R. A. Cordner, M.I.C.E., Indian Public Works Department.

DEATHS.

CARMALT JONES.—On Feb. 2nd, T. W. Carmalt Jones, F.R.C.S., of 6, Westbourne-street, Hyde Park-gardens, in his 51st year. No flowers.

DICKSON.—On Jan. 27th, at Somborne Cottage, Sandgate, Henry Arthur Dickson, F.R.C.S., L.R.C.P., of the Indian Medical Staff, aged 27 years.

FISHER.—On Dec. 11th, at Pahi, Auckland, New Zealand, Alder Fisher, M.R.C.S., L.S.A., formerly of John-street, Bedford-row, aged 91 years.

MOSES.—On Jan. 20th, at Stafford, Frederick Henry Moses, M.R.C.S. Eng., L.R.C.P. Edin., eldest surviving son of the late J. W. Moses, M.D., and grandson of J. Moses, Captain and Paymaster of the Royal Westmoreland Militia, aged 55 years. Interred in West Derby Cemetery, Liverpool, on the 26th.

ORD-MACKENZIE.—On Jan. 26th, Deputy-Surgeon-General William Ord-Mackenzie, M.D., late 3rd Hussars, of Belsize-park-gardens, N.W.

SLATER.—On Jan. 29th, at Tempsford, Druce John Slater, M.D. Lond., of Courtfield-road, South Kensington, aged 41 years.

SOMERVILLE.—On Jan. 29th, at the residence of O. A. Wickham, Westbourne-road, Barnsbury, N., Richard Somerville, L.R.C.P., L.R.C.S.Irel., aged 25 years.

N.B.—A fee of 6s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (12th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (7th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr J. H. Morgan: The Affections of the Urinary Apparatus of Children. (Lettsomian Lecture.)

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Adjourned Discussion on Mr. A. Marmaduke Sheild's paper on Immunity and Latency after Operations for Reputed Cancer of the Breast. Opened by Sir Thomas Smith.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Paper:—Mr. L. Atkinson: Bacteriology for Pharmacists (illustrated by photo-micrographs and demonstrations of methods of cultivation and staining).

WEDNESDAY (9th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8 P.M. Annual General Meeting. 8.30 P.M. Dr. P. Horrocks: The Structure of the Placenta with especial reference to the Maternal and Fœtal Circulations and their bearing on Heredity. (Hunterian Oration.)

MEDICAL SOCIETY OF UNIVERSITY COLLEGE (London).—8.30 P.M. Mr. Victor Horsley: The General Medical Council.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Exhibition of Clinical Cases. Special Meeting in the evening. Discussion: Dermatitis Herpetiformis. Opening paper by Dr. A. Jamieson (Edinburgh).

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. Patterson, Dr. L. Lack, Dr. D. Newman, Dr. S. Spicer, Dr. Tilley, Dr. Waggett, Dr. Hill, Mr. C. Symonds, and others.

THURSDAY (10th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover square, W.).—8.30 P.M. Specimens will be shown by Mr. Bowreman Jessett. Dr. Macnaughton-Jones (President): Inaugural Address. 10 P.M. Conversazione.

FRIDAY (11th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers: Mr. D. Newman: Cases of Malformation of the Kidney and Displacement without Mobility.—Mr. H. B. Robinson: Hydronephrosis with Stone in the Left Ureter, Successful Retro-peritoneal Uretero-lithotomy.—Dr. W. Ewart: On Latent and Ephemeral Pericardial Effusion.—Dr. S. West: Case of Serous Pleural Effusion of Fifteen Months' Standing treated by Incision.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (8th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Mr. E. Cotterell: On the Surgical Treatment of Paralytic Deformities, with cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Buzzard: Lecture.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (9th).—THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on the Purification of Water for Barracks, Prisons, and other Institutions. Opened by Prof. J. Lane Notter.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Abraham: Cases of Skin Disease.

THURSDAY (10th).—CHARING-CROSS HOSPITAL.—4 P.M. Dr. Abercrombie: Demonstration of Medical Cases in the Wards. (Post-graduate Class.)

FRIDAY (11th).—ROYAL INSTITUTION.—9 P.M. Mr. J. H. Gladstone: The Metals Used by Great Nations of Antiquity.

EAST LONDON HOSPITAL FOR CHILDREN (Shadwell, E.).—4 P.M. Dr. Coutts: Scurvy in Infants.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 3rd, 1898.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan.	28	30·60	W.	...	48	46	41	40	43	Overcast
,,	29	30·64	W.	...	53	53	41	39	41	Overcast
,,	30	30·43	W.	0·02	58	56	40	51	53	Raining
,,	31	30·34	N.W.	0·08	71	64	50	46	50	Fine
,,	1	30·20	W.	0·03	63	58	47	52	53	Cloudy
,,	2	29·78	N.W.	...	77	50	47	42	47	Cloudy
,,	3	30·02	N.W.	...	51	45	40	38	40	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in THE LANCET of Jan. 1st.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

VEGETARIANISM AND QUEEN ELIZABETH.

WE have been favoured with a letter from a lady who uses "Stella" as a pseudonym and who denounces us as blood-thirsty and indecent because we do not, on the one hand, espouse the cause of vegetarianism, while on the other we neglect to insist upon the employment of women only to attend upon sick women. Our correspondent is terribly in earnest, but in her anxiety to get in her telling blows she leaves herself a little unguarded. Can we deny, she asks, that tuberculous meat is a source of danger? No, we cannot; but can "Stella" deny that milk is also a vehicle of tuberculous infection? and milk, we fancy, is an important constituent of the vegetarian diet. Can we contradict her, she asks, when she states that women are competent to wait on suffering women; and if not, why do we not put aside our intolerance and denounce "the gross impropriety of male ministration"? To this we would remark—regretfully—that it requires a nasty mind to see the impropriety that is so gross in "Stella's" opinion; and that to insist upon every woman having a woman to attend upon her would be a very intolerant proceeding, for some of "Stella's" suffering sisters might prefer the services of the opposite sex. Finally, "Stella" asks us to "look at Queen Elizabeth!" Despite its abruptness this may not be an inconsequent request, though we cannot see its bearing. We make no claim to a perfect knowledge of historical matters, but if "Stella" is meaning to adduce Queen Elizabeth as a proof that a woman can make a good ruler we think a better example could be found in times that are nearer to us. And if "Stella" means to imply that Queen Elizabeth was a successful monarch because she was a vegetarian we escape all discussion of the deduction by denying the premise. Putting aside the particular case of Queen Elizabeth, imagination staggers in the attempt to realise the reign of a queen whose policy should be swayed by her vegetarianism. We recommend the theme to Mr. W. S. Gilbert.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Will any brother practitioner kindly say in the columns of THE LANCET where a lad about five years old—idiotia simplex—could be located with hope of cure? The parents are not well off but would pay about 5*s.* per week. I am, Sirs, yours faithfully,

Feb. 1st, 1898. J. J. H.

PUFFS FROM UNEXPECTED QUARTERS.

PAGE 6 of the supplement to the *Weekly Telegraph*, dated Jan. 29th, 1898, has been sent to us by a correspondent at Sheffield, who draws our attention to the following printed testimonials to the efficacy of a preparation entitled Woodward's Gripe Water for All Disorders of Infants and Young Children:—

"East Finchley, London, N., April 9, 1897.

"Dear Sir,—'WOODWARD'S GRIPE WATER' is a Pharmacological preparation of great value. Knowing its exact composition and having witnessed the happiest results from its administration, I can with confidence recommend it not only as a Safe but an Efficient Remedy. Spasmodic colic in infants IT RELIEVES WITH SURPRISING RAPIDITY.

"Yours truly, J. DYSART McCAW, M.D."

"Kirkintilloch, July 9, 1896.

"Dear Sir,—During the last fifteen years I have been a prescriber of 'Gripe Water.'—Yours faithfully,

"WM. WHITELAW, M.D., Medical Officer of Health."

"Cleveland House, Derby, Aug. 8, 1895

"Dear Sir,—I have prescribed 'Gripe Water' for upwards of twenty years, and consider it a safe and effectual remedy.

"Yours truly, W. H. WRIGHT, L.R.C.P., &c.,

"Medical Officer of Health."

"Westfield, N.J., U.S.A., July 30, 1895.

"Dear Sir,—Woodward's 'Gripe Water' challenges my admiration and confidence as a scientific and notably honest remedy.

"Yours truly, W. H. MORSE, M.D.,

"Consulting Therapeutist."

From ANDREW WILSON, Esq., M.D., F.R.S., &c., &c.

"It is an excellent Family Remedy, and no Nursery should be without it."

We cannot trace in the Medical Directory the M.D., F.R.S., whose sapient opinion it is that no nursery should be without this remedy for "all disorders of infants and young children," so possibly there is no such person; nor do we think it a matter of importance to our readers that gripe water should challenge the admiration of a consulting therapeutist in New Jersey. But we are strongly of opinion that the other three gentlemen should at once and vigorously repudiate the responsibility that has been thrust upon them of recommending this nostrum to the public.

"THE TREATMENT OF CHRONIC PROSTATITIS."

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent "Medicus," who in THE LANCET of Jan. 22nd asks for a reliable method of treating a case of chronic prostatitis, I would beg to suggest the following which is on the lines adopted in Vienna at Professor Finger's Klinik with very satisfactory results. The treatment consists in the alternate massage of the prostate gland and the local application of astringent and antiseptic lotions. The index finger of the right hand may be used in the ordinary way for massaging the prostate, but the process is more efficiently and conveniently carried out with the aid of an

instrument devised for the purpose by Professor Finger. It consists of a bulbous rectal sound about twelve inches long and slightly bent upon itself in the middle, so that one half forms a handle or lever by which the bulbous end can be manipulated. At the first sitting it is advisable to wash out the urethra with a backward flow catheter and get the patient, who should be bending forward over the back of a chair during the massage process, to hold a glass slide up to the meatus urinarius. The fluid thus pressed out of the prostate oozes out on to the slide and should be stained and examined under the microscope, when a rough indication of the state of the gland is got by observing the quantity of pus and epithelial débris present in the specimen. By comparing this with the results of subsequent examinations a fair idea of the progress of the case is obtained. On these occasions care must be taken to avoid pressing upon the seminal vesicles, otherwise the prostatic exudation will be largely diluted with spermatic fluid. For the local application of lotions an Ultzmann's syringe (*Injectionscapillarröhre nach Ultzmann*) is needed. It is merely an arrangement like an ordinary hypodermic syringe to which in the place of a needle a curved metal catheter is screwed on. Begin the treatment by a careful massage of the prostate either with the forefinger or more conveniently with the Finger's sound, which should be greased with vaseline. This being done fill the Ultzmann's syringe with 5 to 10 c.c. of a 0·5 per cent. solution of silver nitrate, lubricate the catheter end with glycerine in preference to oil and introduce it into the urethral canal up to the prostatic portion which can be localised by any of the ordinary methods; then gently press the piston of the syringe so that the lotion is directly applied to the diseased gland and carefully withdraw the instrument. Both operations should be repeated on alternate days, the strength of the lotion being gradually increased. For example, at about the fifth or sixth sitting a 1 per cent. solution of silver nitrate may be used, and after three or four such applications, if the urethra is not much inflamed, a 5 per cent. solution of copper sulphate should be substituted for the silver nitrate. Use this two or three times and then return to the 1 per cent. solution of silver nitrate, alternating it this time with a 10 per cent. solution of copper sulphate. Proceed on these lines until a 2 per cent. solution of silver nitrate is alternated with 15 per cent. of copper sulphate. Test the progress of the case from time to time by examining microscopically the fluid squeezed out of the prostate and note also the greater ease with which the patient bears the massaging. In ordinary cases the cure is complete in about six weeks or less from the commencement of the treatment. Should matters remain stationary, however, or without much improvement after the period indicated a good plan is to suddenly increase the strength of the silver nitrate solution to 5 per cent. This application is followed by a sharp inflammatory reaction and treatment must be suspended for four or five days, after which the use of the 2 per cent. lotion is to be resumed and alternated with the copper as before. Where, as frequently happens, the case is complicated with stricture or with an anterior or posterior urethritis or both it is well to alternate the massaging with the passage of a urethral sound varying in size according to circumstances and also at every sitting, after the local application to the prostate, to reserve part of the lotion in the syringe to be pressed out drop by drop along the urethra as the instrument is being withdrawn. Finger's sound and Ultzmann's syringe may be had by post at a moderate price from H. Reiner, Franzen Ring 22, Vienna.

I am, Sirs, yours faithfully,

Lauriston-place, Edinburgh. GEORGE H. MASSON, M.D. Edin.

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of THE LANCET.

SIRS,—I have received the following additional subscriptions to the above Fund. The list is now closed and a cheque for the amount will be presented to Mr. Hall Hains on Friday evening, the 4th inst., at the house of the chairman of the committee, 15, Bath-road, Bedford-park. Thanking you for your courtesy in inserting the appeal and the lists of subscriptions,

I am, Sirs, yours faithfully,

HERBERT CARRE-SMITH,
Hon. Secretary and Treasurer.

3, Turnham-green-terrace, Chiswick, W., Feb. 1st, 1898.

	£ s. d.		£ s. d.
Amounts previously acknowledged	100 3 6	Surgeon-Major Russell Cree	10 0 0
Mr. Edmund H. Gonin, M.B., C.M. Edin. ...	2 2 0		
Mr. E. Osborn Fountain, M.D. Brux.	1 1 0	Total	£113 6 6

"A PROLIFIC MOTHER."

To the Editors of THE LANCET.

SIRS,—The instance of hyperfertility communicated by "M. B." in THE LANCET of Jan. 29th induces me to quote an even more remarkable case occurring within my own experience. In March, 1896, I delivered a woman of her twenty-fifth child—a robust male. The mother was exactly forty years of age, and having been married at fifteen she had thus produced on an average one child per annum for twenty-five years. In addition to these she had had, as she expressed it, "*at least* three miscarriages." On two occasions (or it may have been three, I forget at this moment) there were twin births. She was a very stout, healthy Irishwoman.

I am, Sirs, yours faithfully,

Jan. 31st, 1898. C. M.

"A NEW CYCLE BRAKE AND COASTER."

To the Editors of THE LANCET.

SIRS,—As I see in THE LANCET of Jan. 29th an account of a cycle fitted with coaster mechanism and rear-wheel, pedal-actuated rim brake, some of your readers may be interested to know that there is another machine on the market which has, in addition to the two devices above mentioned, a four-speed variable gear. This is the Whippet cycle, fitted with Protean gear. The gear mechanism consists of a front chain-wheel made in two pieces which expand and contract in response to back-pedalling. The slack chain necessitated by the changes in the size of the chain-wheel is kept taut by a small wheel at the end of a lever. Two ranges of gear are fitted, one from 56 in. to 65 in., the other from 63 in. to 73½ in. Each has two intermediate gears. I recently rode one of these machines to Redhill and back and, having previously gone over the same road on a Safety fitted with fixed gear, can testify to the great advantage derived from the variable gear on even a moderately hilly road. The makers are the Whippet Cycle Syndicate, Limited, 281, Oxford-street, and anyone calling there will meet with a most courteous reception and find every facility afforded for trying the machine.—I am, Sirs, yours faithfully,

F. HYDE MABERLY, M.D. Dub.

Eardley-crescent, Earl's-court, Jan. 30th, 1898.

WANTED A QUALIFIED MEDICAL MAN.

AN enterprising advertiser thus expresses his wants in the *Yorkshire Post*:—

WANTED, a qualified Medical Man, for two hours a day, to assist a patent medicine vendor.—Address "Medicus," c/o Smith's Advertising Agency, 61, Lord Street, Liverpool.

We hope "Medicus" attaches no vital importance to obtaining what he wants, because, firstly, it is unlikely that he will find a qualified medical man ready to degrade himself and, secondly, the General Medical Council would remove such a person from the Medical Register immediately.

A QUESTION IN SURGERY.

F.R.C.S. wishes to know if there are any recorded cases of recovery after simultaneous ligature of the popliteal artery and vein for arterio-venous aneurysm without loss of limb.

K. W.—We consider that under the circumstances detailed our correspondent has been treated badly by his fellow practitioner, but we do not think he can take any steps that would put matters right.

Public Health.—It is, unfortunately, impossible to "give a decided opinion" or to say how our correspondent "stands exactly," for we cannot forecast the view which any particular sanitary authority might take. We consider the diploma of L.R.C.P. Lond. earned before the conjoint scheme to be tantamount to a double qualification, as the document is headed "Qualification to practise Medicine, Surgery, and Midwifery," and in the body occur the words, "Licence ..... to practise Physic, including therein the practice of Medicine, Surgery, and Midwifery." We think that any sanitary authority who desired to obtain our correspondent's services would be likely to take this view.

ERRATUM.—In our issue last week, under the heading of "Books, &c., Received," Adlard and Son, Bartholomew-close, should read, "The New Sydenham Society," London, Vol. clxii., Second Series.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Teignmouth Gazette, Cheltenham Examiner, Berkshire Chronicle, Chester Courant, Northampton Herald, Fife Herald, Hastings Chronicle, Kentish Observer, Doncaster Chronicle, Times of India, Pioneer Mail, Elgin Courant, Glasgow Herald, Peterborough Advertiser, Builder, Hinckley Times, West Sussex Gazette, Boston Advertiser, Liverpool Daily Post, Lynn Advertiser, Architect, Preston Herald, Loughborough Monitor, Kendal Mercury, South Durham Mercury, Wolverhampton Chronicle, Halifax Guardian, Hornsea Gazette, Bury Guardian, Bristol Mercury, Keighley News, Lowestoft Standard, Scotsman, Yorkshire Post, Birmingham Gazette, Rochdale Observer, Manchester Guardian, Brighton Herald, Leeds Mercury, Montreal Gazette, Newbury Daily News, Banbury Guardian, Grimsby News, Norwich Mercury, Cambrian, Cromer Post, Devon Weekly Times, Worcester Chronicle, Eastbourne Gazette, Essex Telegraph, Eastern Morning News, Somerset County Herald, Isle of Wight Chronicle, Cambridge Express, Norfolk Chronicle, Oban Times, Royal Cornwall Gazette, Brighton Gazette, Evening Times, Glasgow, Local Government Chronicle, Mining Journal, City Press, Hertfordshire Mercury, Reading Mercury, Local Government Journal, Chelsea Mail, Weekly Free Press and Aberdeen Herald, Australasian Medical Gazette, Surrey Advertiser, Leamington Courier, South Wales Daily Argus, West Middlesex Herald, Public Health, Stroud Journal, Woodford Times, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mr. R. Ackrill, Harrogate; Anderson's College Medical School, Glasgow, Secretary of; Dr. J. G. Allen, Armagh.

B.—Miss Boulibee, Lond.; Bournemouth Hydro, Medical Superintendent of; Messrs Brady and Martin, Newcastle-on-Tyne; Byrne's Advertising Agency, Lond.; Messrs. Blondeau et Cie, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; Mr. W. G. Burcombe, Lincoln; Mr. W. A. Batchelor, Bristol; Messrs. Baillière, Tindall, and Cox, Lond.; Mr. W. H. Bennett, Lond.; Messrs. W. H. Bailey and Son, Lond.; Dr. Lucas Benham, Lond.

C.—Dr. F. J. H. Coutts, Manchester; Dr. H. Campbell, Lond.; Cortland Wagon Co., Lond.; Messrs. W. Currie and Co., Edinburgh; Dr. S. Conner, H.M.S. *Albicore*, Queenstown; Messrs. H. and W. Cox, Leicester; Dr. C. Childs, Lond.; Messrs. Cassell and Co., Lond.; Dr. W. H. Coates, Holderness; Messrs. Cordingley and Co., Dr. W. B. Cheadle, Lond.; County Borough of Cardiff, Medical Officer of Health of; Cornwall County Asylum, Bodmin, Clerk of; Messrs. J. A. Carveth and Co., Toronto.

D.—Mr. A. Davies, Lond.; Surgeon-Major A. Duncan; Mr. F. Davidson, Lond.; Lens, Lond.; Messrs. Dawbarn and Ward, Lond; Messrs. Dargue, Griffiths, and Co., Lond.; *Daily Contract Recorder*, Lond.

E.—Dr. F. A. Elkins, Ryhope; Messrs. Elliott, Son, and Boyton, Lond.; Erwoods Advertising Offices, Lond.; Etablissement Thermal d'Uriage, France, Director of.

F.—Dr. G. C. S. Fulton, Middlesborough-on-Tees; Mr. R. Forbes, Lond.; Falona Food and Cereal Co., Lond.

G.—Mr. J. Gibson, Ecclefechan; Mr. A. Gore, Chester; Glasgow Royal Infirmary, Superintendent of, Gloucester General Infirmary, Secretary of; Dr. T. Grainger, Consett; G. W. K. C., Lond.

H.—Mr. J. Heywood, Manchester; Mr. J. Halton, Lond.; Messrs. Hazell, Watson, Viney, and Co., Lond.; Mr. G. B. Hudson, Hertford; Mr. W. Hubbard, Partick; Hastings Corporation, Town Clerk of; H. J., Lond.; Dr. Hodgson, Lond.; Mr. G. L. Hayes, Sheffield; Huntingdon County Hospital, Hon. Secretary of.

I.—International Health Exposition, New York, U.S.A., Secretary of.

J.—Mr. H. M. Jordan, Lond.; Mr. N. P. Jasper, Lond.; Mr. J. C. Jones, Sheffield.

K.—Dr. D. E. Keefe, Springfield, Mass., U.S.A.; Mr. F. W. Kendle, South Molton; Messrs. C. Kinlock and Co., Lond.

L.—Mr. S. H. Long, Norwich; Dr. J. F. Little, Lond.; Mr. W. E. Langton, Lond.; Messrs. H. K. Lewis, Lond.; Mons. H. Le Soudier, Paris; Messrs. Lee and Martin, Birmingham.

M.—Mr. F. J. Manor, Lond.; Dr. G. H. Masson, Edinburgh; Manchester Children's Hospital, Pendlebury, Secretary of; Mr. F. V. Milward, Lond.; Medicus, Bournemouth; Messrs. Mackey, Mackey, and Co., Lond.; Messrs. J. Menzies and Co., Edinburgh; Professor E. Morelli, Rome; Messrs. J. F. Macfarlan and Co., Lond.; Mutual Life Insurance Co. of New York, Lond., Manager of; Dr. J. Irvine Menzies, Lond.; Dr. Macintosh, Chesterfield; Messrs. S. Maw, Son, and Thompson, Lond.; M.D., Woking; Mr. J. G. Mabey, Chudleigh; Mr. J. Y. W. MacAlister, Lond.; Dr. H. Mackenzie, Edinburgh; Medical Officer of Health, Huddersfield.

N.—Mr. G. P. Newbolt, Lond.; Dr. A. Newaholme, Brighton; National Telephone Co., Lond.; Newport and Monmouthshire Hospital, Secretary of.

O.—Dr. E. T. Osbaldeston, Lond.; Messrs. P. de Otaduy and Co., Lond.; Omicron, Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Price's Patent Candle Co., Lond., Manager of; Press Association, Lond., Manager of; Messrs. J. B. Petter and Sons, Lond.; Mr. B. Pitts, Lond.; Mr. F. J. Paynton, Lond.

R.—Dr N. Raw, Liverpool; Royal Lancaster Infirmary, Hon. Secretary of; R. A. O., Lond.; Mr. C. Ricker, St. Petersburg; Messrs. W. A. Ross and Sons, Belfast; Ross, Ltd, Lond.; Mr. J. H. Ray, Manchester; Dr. H. B. Robinson, Lond.; Dr. Roussoirtel, Lond.; Professor W. K. Roth, Moscow; Royal Alexandra Hospital for Sick Children, Brighton, Secretary of; R. M. O., Lond.

S.—Dr. S. Sutherland, Lond.; Mr. W. B. Saunders, Philadelphia, U.S.A.; Mr. T. Smith, Lond.; F. Saunders, Peterborough; Mr. T. G. Sumpter, Brussels; Messrs. Spiers and Pond, Lond.; Messrs. Sparks, Treharne, and Son, Lond.; South Devon and East Cornwall Hospital, Plymouth, Steward of; Messrs. Scott and Bowne, Lond.; Sunderland Borough Asylum, Clerk of; Messrs. Street and Co., Lond.; Mr. T. Savage, Birmingham; Mr. H. Sell, Lond.; Messrs. W. H. Smith and Son, Lond.; Mr. T. P. Salt, Birmingham; Society of Arts, Lond., Secretary of; Dr. Simpson, Basingstoke; Mr. Stanyon, Leicester; Mr. P. P. Sale, Birmingham.

T.—Dr. C. F. Turner, Lond.; Dr. H. Tylecote, Stone; Tewkesbury Union, Clerk of.

V.—Dr. F. C. Van Someren, South Hampstead; Victoria Hospital for Sick Children, Lond., Secretary of.

W.—Dr. Woodwood, Worcester; Dr. E. Walford, Cardiff; Mr. F. Wilson, Lond.; Mr. E. H. Woods, Lond.; Lieutenant-Colonel J. B. Walker, Woking; Dr. D. Walsh, Lond.; Mr. A. V. Wagner, Lond.; Mr. H. Whewell, Bolton

Y.—Mr. C. A. Young, Hertford; Messrs. Charles Yarrow and Co., Lond.

Z.—Messrs. Zimmer and Co., Frankfort-on-Main.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. Althaus, Lond.; Dr. F. H. Alderson, Lond.; Dr. B. Allen, Hawes; Mrs. A. Anderson, Galway; Anglo-Swiss Condensed Milk Co., Lond.; D. A. Anklesaria, Sadra, India; Ashwood House, Kingswinford, Proprietor of; Achor, Colwyn Bay; Mr. J. W. Arrowsmith, Bristol; Mrs. M. Aitken, Sale; A.B.C., Gravesend; Messrs. Allen and Hanburys, Lond.

B.—Dr. Barbour, Lond.; Dr. A. Brown, Rayleigh; B. B., Lond; Mr. S. H. Benson, Lond.; Surgeon-Lieutenant-Colonel S. H. Browne, Charing Cross, India; Berry Wood Asylum, Northampton, Clerk of; Messrs. P. B. Burgoyne and Co., Lond.; Mr. W. Byford, Chesterfield; Messrs. J. Beal and Sons, Brighton; Bridgwater Infirmary, Secretary of; B. M., Lond.; Bacchus, West Bridgeford.

C.—Mr. J. Clarke, Hitchin; Dr. W. S. Carroll, Hafod; Mr. J. Carter, Lond.; Mr. J. G. Cloke, Hamilton, Ontario, Canada; Miss Colclough, Lond.; Cheshire, Manchester; Calendar, Lond.; Crescens, Lond.; Dr. A. Cameron, Caistor; Mrs. Cooke, Lond.; C. W., Lond.

D.—Dr. Davies, Ebbw Vale; Mrs. Dowker, Helmsley; Messrs. Duncan, Flockhart, and Co., Edinburgh; Dowlais Iron Co., Secretary of; Dr. S. P. Delaup, New Orleans, U.S.A.; D. G., Lond.; Dr. W. Dixon, Eythorne; D. L., Lond.; D. L. S., Lond.; Mr. J. T. Davenport, Lond.; D. S. C., Lond.; Doctor, Lond.

E.—Mr. D. T. Edwards, Taffs Well; Exeter City Asylum, Secretary of.

F.—Mr. A. Frost, Lond.; Ferox, Lond.; Flintshire Dispensary, Holywell, Secretary of; Messrs. Fletcher, Fletcher, and Co., Lond.

G.—Mr. J. H. Goldwin, Rochester; Messrs. R. W. Greeff and Co., Lond.; Messrs. Glaisyer and Kemp, Brighton; G., Lond.; General Apothecaries' Co., Lond.; Grove House Private Asylum, All Stretton, Proprietress of.

H.—Mr. W. B. Harvey, Frome; Dr. P. Hatton, Victoria, B.C., Canada; H. J., Lond.; Messrs. Hogg and Son, Lond.; Hereford General Infirmary, Secretary of; Messrs. Hooper and Co., Lond.; B. F. Hickox, San Francisco; Hertford Union, Clerk of.

I.—Messrs. Irvine, Son, and Jones, Liverpool.

J.—Mr. F. F. Jones, Llanfyllin; Joint Counties Asylum, Carmarthen, Clerk of.

K.—Mr. T. Kennedy, Huckmall-Huthwaite; Professor S. Kitasato, Tokyo, Japan; Mr. W. H. Kirkman, Manchester.

L.—London Throat Hospital, Lond., Secretary of; Lyme, Lond.; L., Neath; London Press Exchange, Lond.; L. M., Lond.

M.—Dr. J. McCaw, Belfast; Matto, Ltd., Lond.; Maltine Manufacturing Co., Lond.; Moat House, Tamworth, Proprietor of; Mr. J. Montford, Upton-on-Severn; Mr. M. J. Moses, Tue Brook; Mr. S. K. Mukerji, Partabgarh, India; Medical, Bishop Auckland; Milk Preparations Co., Brentwood; Dr. A. Mitra, Kashmir; Mr. D. J. Macaulay, Halifax; M. W., Kilburn; Manchester Suburb, Lond.; M. B., Lond.; Mr. J. W. McVitie, Maghull; Mr. W. H. Munster, Belfast.

N.—Mr. R. M. Newman, Reading; Northumberland County Asylum, Cottingwood, Secretary of; Norfolk and Norwich Hospital, Norwich, Secretary of; National Hospital for Diseases of the Heart, Lond., Secretary of.

O.—Mr. J. C. O'Rafferty, Millhouses; Oriens, Lond.

P.—Mr. E. D. Palmer, Lond.; Mr. W. Poppelreuter, Manchester.

R.—Mr. C. Rundle, Darenth; Mr. R. B. Roe, Amraoti, India; Messrs. Roger and Chernoviz, Paris; Messrs. Reynolds and Branson, Leeds; Messrs. A. Riddle and Co., Lond.; Miss F. Rapson, Lond.

S.—Mr. F. S. Simmonds, Kidderminster; St. Andrew's Hospital, Northampton, Secretary of; Mr. J. Spencer, Helton; Southport Infirmary, Secretary of; Dr. G. H. Salter, Ballan, Australia; Mr. H. B. Shepherd, Castleton; Dr. A. E. Syme, Lilydale, Australia; Sheffield Independent Press; Dr. J. Savege, Hull; S., Lond.; Statim, Lond.; Sussex County Hospital, Brighton, Secretary of; Springfield House Asylum, Bedford, Secretary of.

T.—Mr. J. Thomas, Newcastle Emlyn; Theta, Lond.; Dr. W. Thorneby, Lond.; Miss Thomson, Lond.; Messrs. Thacker and Co., Lond.; Tamar Indien Grillon, Lond.; Mr. J. Thin, Edinburgh.

U.—Union Assurance Society, Lond., Secretary of.

V.—Verax, Lond.

W.—Dr. E. Wills, Pretoria, S.A.R.; Mr. G. E. Williams, Rhostryfan; Mr. S. Wand, Leicester; W. H. S., Lond.; Wonford House Hospital, Exeter, Treasurer of; Mr. D. Watkinson, Preston; W. W., Lond.; Mr. E. T. Whitehead, Lond.; Dr. Wales, Belfast; Dr. A. F. Wilson, Cambridge.

X.—X. Y. Z., Lond.; X., Lond.

EVERY FRIDAY. THE LANCET. PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.